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ABSTRACT

This report presents findings of a Kentucky state task force which studied the current status of Kentucky's postsecondary education system. Ten advisory groups across the state, comprised of postsecondary education stakeholders, developed position papers to identify critical issues and make recommendations. Individual chapters address the following issues: the importance of the state's postsecondary education system to its future; the barriers to achieving an efficient and coordinated system; and five goals for creating a comprehensive postsecondary education system. The task force did not offer specific recommendations for change but did urge reform of and strategic investment in the state's postsecondary education system. The report identifies five barriers to progress: (1) a structure to link all postsecondary education resources with a long-range strategy is lacking; (2) current funding mechanisms serve as disincentives for program efficiency and institutional cooperation; (3) postsecondary education lacks incentives for the attainment of quality and pursuit of excellence; (4) Kentucky seriously lags the nation and competitor states in research and development activity; and (5) the current system has no comprehensive strategy to maximize the use of existing and emerging technologies. (Contains 22 references.) (DB)

POSTSECONDARY EDUCATION IN KENTUCKY

AN ASSESSMENT

A REPORT TO THE TASK FORCE ON POSTSECONDARY EDUCATION

MARCH 1997

" THE ABILITY OF STATES AND NATIONS TO CULTIVATE AN APPETITE AND AN APPRECIATION FOR KNOWLEDGE WILL BE KEY TO THEIR PROSPERITY."

Exploring the Frontier of the Future
Kentucky Long-Term Policy Research Center
(December 1996)

"HIGHER EDUCATION IS IN DEEP CRISIS."

Peter Drucker, *Forbes* (March 1997)

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MARCH 10, 1997

MEMBERS OF THE TASK FORCE ON POSTSECONDARY EDUCATION,
MEMBERS OF THE GENERAL ASSEMBLY, AND
CITIZENS OF THE COMMONWEALTH OF KENTUCKY

Fellow Kentuckians:

As chair of the Task Force on Postsecondary Education, I am providing this report, *Postsecondary Education in Kentucky - An Assessment*, to Task Force members, members of the General Assembly and the citizens of the Commonwealth. This document is a summary of information gathered by the Task Force, which has studied the status of Kentucky's postsecondary education system for many months.

Acknowledging the critical importance of postsecondary education to Kentucky, the 1996 General Assembly adopted Senate Concurrent Resolution 93, which created the Task Force on Postsecondary Education. The 18 members, representing both the executive and legislative branches of state government, began meeting monthly in July 1996 and quickly embraced the following goal:

TO ASSURE THAT KENTUCKY'S POSTSECONDARY EDUCATION AND TECHNICAL EDUCATION SYSTEM IS POSITIONED TO PROVIDE THE HUMAN CAPITAL NEEDED TO ALLOW THE COMMONWEALTH TO BE A LEADER IN THE GLOBAL ECONOMY OF THE 21ST CENTURY.

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Since July, a great deal of effort has been given to reviewing previous studies and to seeking input from consumers and providers of postsecondary education. The Commission on Higher Education Institutional Efficiency and Cooperation was created by executive order to include university presidents and other postsecondary education stakeholders in the review. In August 1996, approximately 275 citizens from across Kentucky were invited to organize into 10 advisory groups. These advisory groups included business leaders, university presidents, private school presidents, university and community college students and faculty, as well as members of various boards and councils, vocational/technical programs, proprietary schools, and other special interest groups. All of these groups were charged with developing position papers to identify critical issues and make recommendations to the Task Force.

Additionally, the Task Force utilized consultants, including the National Center for Higher Education Management Systems (NCHEMS), and the Education Commission of the States (ECS). NCHEMS assisted the Task Force by analyzing the issues and problems and took a lead role in assembling this document.

Specific recommendations for change are not provided, although a strong case is made for the need to reform Kentucky's postsecondary education system. This assessment outlines the importance of Kentucky's postsecondary education system to its future, the barriers to achieving an efficient and coordinated system, and the goals for creating a comprehensive postsecondary education system.

I encourage you to read this document carefully and consider its information as we begin to discuss the appropriate solutions for the reform of our postsecondary education system in the Commonwealth.

Sincerely,

Governor Paul E. Patton
Chair, Task Force on Postsecondary Education

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*The appendix included in this document is in an abbreviated form related to the subject matter covered in this document. A more comprehensive appendix will be available and it will include the research and related material compiled by the National Center for Higher Education Management System (NCHEMS).

EXECUTIVE SUMMARY

Kentucky must significantly improve the postsecondary knowledge and skills of its population and its research competitiveness if the Commonwealth hopes to compete in the global economy and raise the quality of life of its citizens. The international and national economies are currently undergoing rapid transformation. These changes result from the growth of technology, the development of new products and expanding markets and the inevitable dislocations associated with the establishment of a new economic order.

Kentucky's traditional economic sectors are declining and are being replaced by high-tech manufacturing and by the provision of services. As a result of this structural economic shift, the need for a skilled workforce has become even more important for the Commonwealth's competitive position. Moreover, an analysis of Kentucky's competitor states suggests the need for a more responsive and flexible system of postsecondary education "in sync" with the emerging economic realities of the 21st century.

EDUCATIONAL ATTAINMENT AND ECONOMIC PROGRESS

Kentucky continues to lag the nation and competitor states in educational attainment at all levels. High school graduation rates remain among the lowest in the nation. Only 13% of the state's population completed a baccalaureate degree compared to the national level of 20%. Kentucky also continues to lag the nation and competitor states in per capita personal income, the most common measure of a state's economic well being.

The linkage between educational attainment and economic progress has been well documented. In the 1997 *Kentucky Annual Economic Report*, produced by the University of Kentucky's Center for Business and Economic Research, it was concluded that 57% of the differential between per capita personal income in Kentucky and other states can be accounted for solely by the Commonwealth's low level of educational attainment, especially at the postsecondary level.

Although Kentucky has increased access to and participation in postsecondary education in recent years, the state has not realized significant gains in educational attainment. Factors contributing to the state's lack of success include inefficiency across the system and a structure which fosters competition rather than cooperation. Effective statewide leadership

and coordination is needed for all of the postsecondary resources in the Commonwealth. There is no statewide strategic vision to drive the postsecondary education system as a critical economic engine for the state and its regions.

The low research funding and doctoral degree production also impedes the system from achieving excellence. Research and development is vital to the growth of regional and state economies. Kentucky, however, is last (15) among its competitor states in research and development funding per capita.

KEY FINDINGS

Kentucky's current "system" of postsecondary education presents a number of barriers to the achievement of an enhanced standard of living and enhanced economic opportunities for the citizens of the Commonwealth.

The following have been identified as barriers to progress:

- **Kentucky lacks a structure to link all of its postsecondary education resources with a long-range strategy to enhance the economic competitiveness and quality of life of its citizens;**

- **The current funding mechanisms for postsecondary education serve as disincentives for program efficiency and institutional cooperation;**

- **Postsecondary education offers virtually no incentives for the attainment of quality and the pursuit of excellence;**

- **Kentucky seriously lags the nation and competitor states in research and development activity; and,**

- **The current system of postsecondary education has no comprehensive strategy to maximize the use of existing and emerging technologies.**

Quality and efficiency in postsecondary education are critical issues for the future economic development of Kentucky and the quality of life of its citizens. Without ***strategic investment*** in postsecondary education and critical linkages to a statewide mission, the Commonwealth will not reach its full potential, and citizens will not be able to compete in the global economy of the 21st century. This report establishes the need for Kentucky to change its path, and to maximize all of its postsecondary education resources. Kentucky's ability to improve its standard of living and quality of life depends on a commitment to excellence.

CHAPTER 1: EDUCATIONAL ATTAINMENT, ECONOMIC OPPORTUNITY AND KENTUCKY'S FUTURE

INTRODUCTION

A common perception, both nationally and in Kentucky, is that the Commonwealth is a low-income state with a low educational attainment. This chapter verifies Kentucky's perceived low standing among competitor states and makes the case that these two indicators – the state's low educational attainment and low per capita income – are correlated.

ECONOMIC OPPORTUNITY— TODAY AND TOMORROW

A QUICK HISTORY

The most common measure for standard of living and economic opportunity is per capita personal income — the total personal income (earnings, dividends, interest, rent, and transfer payments) received by Kentuckians divided by the population of the state. Per capita personal income (PCPI) is a fundamental measure of a state's economic well-being.

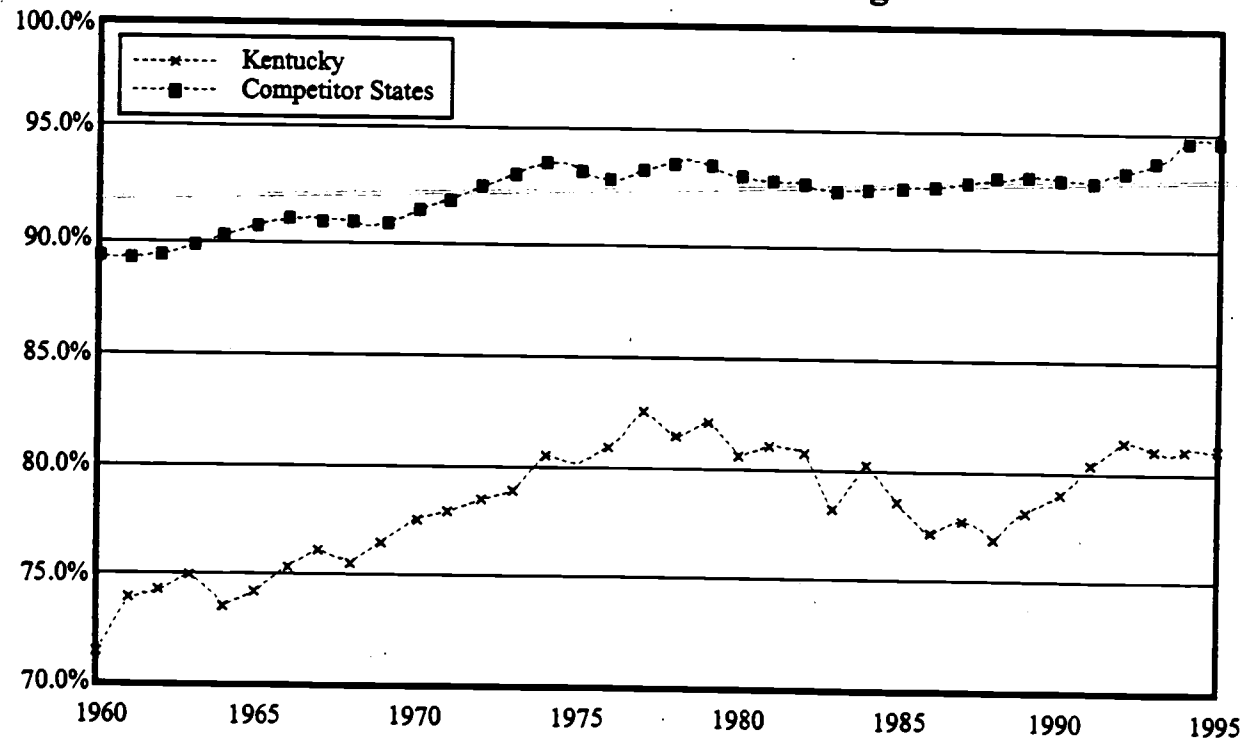
In 1960, Kentucky's per capita personal income was approximately 73% of the U.S. average. Today, Kentucky's per capita personal income is 81% of the U.S. average. By contrast, Kentucky's 14 competitor states (those states which compete with Kentucky for jobs and capital formation) average 95% of the national per capita personal income. (The competitor states, which will be referred to throughout this report, include Alabama, Florida, Georgia, Illinois, Indiana, Louisiana, Mississippi, Missouri, North Carolina, Ohio, South Carolina, Tennessee, Virginia and West Virginia.)

WITHOUT A CHANGE IN PUBLIC POLICY DIRECTION, KENTUCKY'S ECONOMIC FUTURE AND STANDARD OF LIVING WILL NOT IMPROVE RELATIVE TO THE REST OF THE COUNTRY.

Figure 1 shows per capita personal income for Kentucky and competitor states as a percentage of the U.S. average. Kentucky's per capita personal income rose from 1960 to the late 1970s and declined throughout most of the 1980s, reaching a low point of 77% of the national average in 1988. The "bump" in per capita personal income during the late 1970s can be attributed primarily to the coal boom. The "dip" in per capita personal income in the 1980s can be attributed to the coal decline and the national economic recession of 1980-82. This recession had a dramatic impact on the Kentucky economy due to the loss of manufacturing jobs. The increase beginning in the late 1980s is due in part to the effects of Toyota and the state's aggressive economic development initiatives. Competitor states, however, achieved a higher relative per capita personal income than Kentucky over this same period.

The Bureau of Economic Analysis (BEA) projects that Kentucky's per capita personal income will be approximately 83% of the U.S. average by the year 2015 and that the gap between Kentucky and its competitor states will remain constant. Kentucky is projected to remain a low-income state.

Figure 1
Per Capita Personal Income for Kentucky and Competitor States as a Percent of U.S. Average



Competitor states are those indentified in the 1995 Barents Group report "Comparative Analysis of Kentucky's Tax Structure." They are: AL, FL, GA, IL, IN, LA, MS, MO, NC, OH, SC, TN, VA, and WV.

The gap between Kentucky and its competitor states is not projected to change without a change in public policy direction (Figure 2).

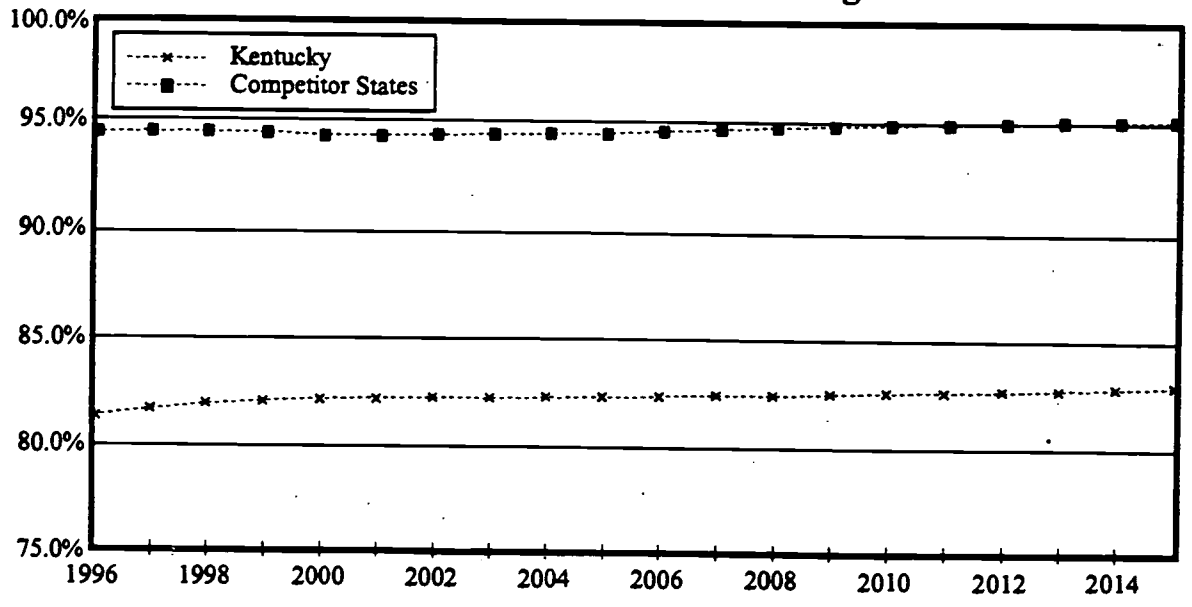
POSTSECONDARY EDUCATION REFORM AND IMPROVED ECONOMIC OPPORTUNITIES

The *Kentucky Annual Economic Report* (1997) notes that workers with high levels of education will earn more in the labor market and thus increase their states' per capita personal income. The same study, which compares the variation in income across the states for 1995, reaches the conclusion that lack of education – primarily the state's low percentage of college graduates – is responsible for the income difference between Kentucky and all other states. According to the study, 57% of the difference between Kentucky's per capita personal income and the average of the other states' per capita personal income can be attributed to educational differences (Figure 3).

LOW EDUCATION ATTAINMENT ACCOUNTS FOR UP TO 57% OF THE DIFFERENCE IN PER CAPITA INCOME BETWEEN KENTUCKY AND ALL OTHER STATES.

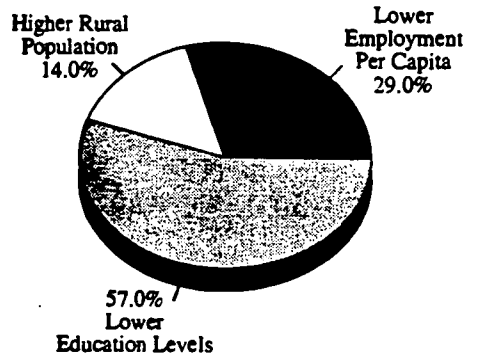
Other factors identified by the report as contributing to Kentucky's low income in-

Figure 2
Forecast of Per Capita Personal Income for Kentucky and Competitor States as a Percent of U.S. Average



Competitor states are those indentified in the 1995 Barents Group report "Comparative Analysis of Kentucky's Tax Structure." They are: AL, FL, GA, IL, IN, LA, MS, MO, NC, OH, SC, TN, VA, and WV.

Figure 3
Explaining Difference Between Kentucky and U.S. Per Capita Income, 1995



Source: 1997 Kentucky Annual Economic Report GOPM-519.prs

clude the large percentage of Kentucky's population living in rural areas (14%) and lower employment opportunities (29%). The higher rural population represents a "quality of life" choice that is important to Kentuckians. Still, as much as 86% of the state's lower standard of living may be affected by lower educational levels since one could argue that a more educated workforce is necessary for Kentucky to compete for new jobs. Many factors affect economic development and increased per capita personal income, such as infrastructure and an efficient government. However, as this study demonstrates, education is the key element. Kentucky will not close the gap between its per capita personal income and the national average without significant increases in the educational attainment of its citizens.

RESEARCH CLEARLY INDICATES THAT THE MAJOR SHARE OF THE DIFFERENCE BETWEEN ECONOMIC OPPORTUNITY AND STANDARD OF LIVING IN KENTUCKY AND THAT OF THE NATION IS THE STATE'S LOW LEVEL OF EDUCATIONAL ATTAINMENT.

INVESTING IN HUMAN CAPITAL — EDUCATION PAYS

EDUCATIONAL ATTAINMENT AND EARNINGS

Research indicates that education benefits both the individual and society. Many of the benefits are quantifiable, such as additional lifetime earnings resulting in additional tax payments to the government. Other educational benefits are much more difficult to quantify, such as personal satisfaction from individual accomplishment cultural enrichments, political participation, quality of life and contributions to society.

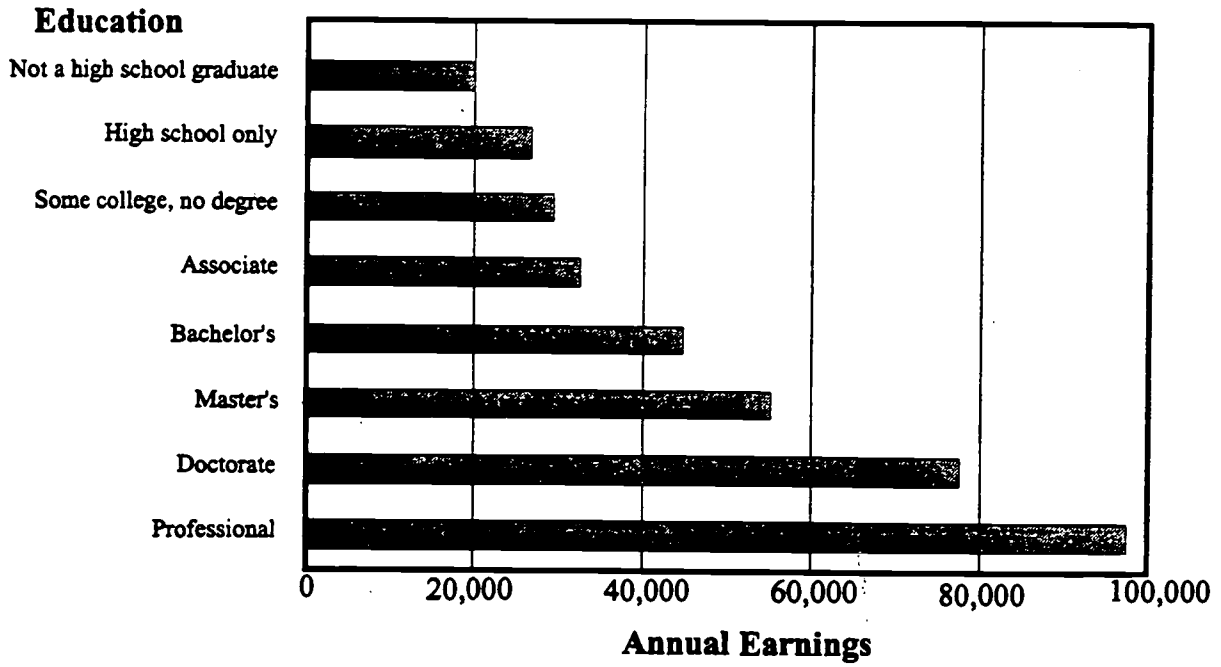
A 1993 University of Kentucky publication, *Economic Impact of Public Higher Education in Kentucky* (two studies), analyzed the economic impacts of higher education and calculated that for 1991-92, Kentucky's public colleges and universities added $8.52 billion to the present value of Kentucky's human capital wealth. (This figure represents the present value of the increases in lifetime earnings that the students enrolled in 1991-92 gained by adding one more year to their educational experience.) From 1989 to 1993, the annual "value added" from education totaled $32.7 billion.

In comparison, state support for higher education during these four fiscal years totaled $2.54 billion. The return in the form of increased human capital wealth to the state was 12.9 times the state's investment. Thus, state expenditures in support of Kentucky's public institutions of higher learning have had substantial multiplier effects, making for higher levels of income and employment than would otherwise exist in the Kentucky economy.

A 1996 study by the Workforce Development Cabinet, *Kentucky Occupational Outlook to 2005*, underscores this point. The types of jobs in the future workplace will be determined by factors such as the marketplace, but "education will continue to be the most critical to one's success in the workplace of the future." Traditionally, education pays off in higher earnings. In fact, the value of education has increased over the past 20 years. As the study notes, ***"education pays the rest of your life."*** Not every person who holds an advanced degree reports high income and many people who have left school early have high incomes today. But the study notes the "clear relationship" between the amount of schooling and subsequent earnings (Figure 4).

In 1980, Kentucky males between the ages of 25-55 who dropped out of high school earned about 17% less than those who completed high school, according to a

Figure 4
Educational Attainment and Earnings



Source: U.S. Department of Commerce, Bureau of the Census, mean annual earnings for full-time workers age 18 and over by highest level of education, 1994

GOPM-528.prs

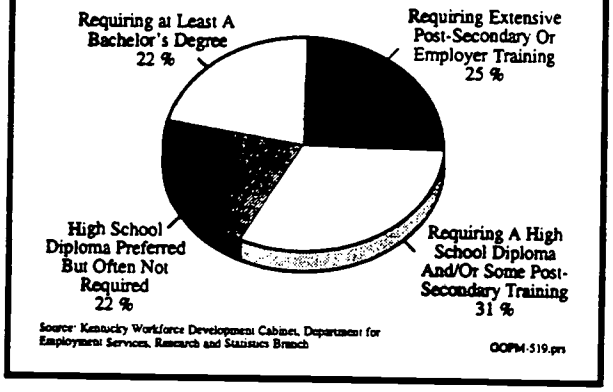
1996 study by the Kentucky Long-Term Policy Research Center, *The Earnings of Drop-outs and High School Enrollments: Evidence from the Coal Boom and Bust.* Those who completed college earned about 32% more than high school graduates. **By 1990, those males who completed college earned nearly 60% more than those who completed high school.** Thus, Kentucky seems to have exhibited many of the same patterns of earnings as the United States as a whole.

EDUCATIONAL ATTAINMENT AND FUTURE JOB GROWTH

The previously referenced Workforce Development Cabinet study also looked at the levels of education and training generally required to gain employment in various occupational fields today and requirements for the future. The four broad educational requirements used to organize the occupations are as follows: bachelor's degree or more; extensive postsecondary (less than a bachelor's degree) and/or employer training; high school diploma and/or some postsecondary training; and high school diploma preferred, but often not required.

The Kentucky economy is expected to grow 17% and create more than 300,000 new jobs from 1994 through 2005. The changing nature of the workplace indicates that many of these new jobs will require some form of postsecondary education. **The professional, paraprofessional and technical occupations will produce the most new jobs of all occupational sectors.** New service jobs will rank second among all occupational sectors. Within these two major occupational sectors, health care and computer-related occupations will grow very rapidly through 2005. Figure 5 indicates that employment will grow in occupations requiring all levels of education and training: 25% for occupations requiring extensive postsecondary or employer training; 31% requiring a high school diploma and/or some postsecondary training; and 22% requiring at least a bachelor's degree.

Figure 5
Percent of Total Kentucky Job Growth by Education or Training 1994-2005



An analysis of the projected growth and the education and training required for the fastest growing occupations indicates that nearly 80% of the new jobs will require some form of postsecondary training. Those low-skill occupations which do not require a high school diploma or additional education or training beyond high school will continue to decline in the total share of employment.

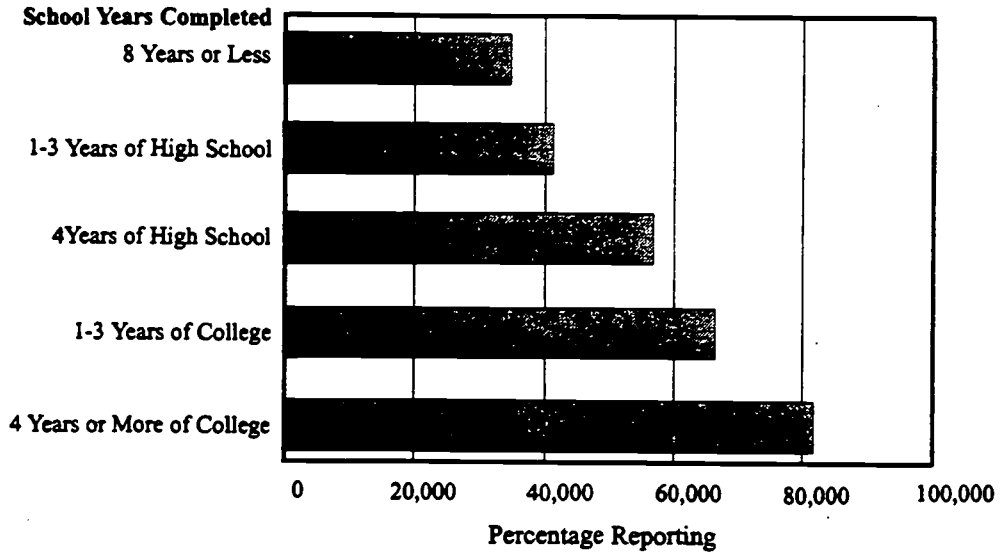
While the educational requirements for many of the low-skilled jobs will remain unchanged, those jobs will be less and less available in the future. Occupations undergoing the greatest decline in Kentucky today are those which require little or no advanced education beyond high school; for example, sewing machine operators, bank tellers and farm workers. It is estimated that Kentucky will lose more than 8,000 jobs by 2005 in those three occupational categories alone. Automation and technology changes account for much of the declining employment. Moreover, farming, like mining, has undergone vast changes and uses fewer workers to generate greater production.

All of the workers in these declining occupations that require little training and education will be at a significant disadvantage as their jobs disappear and are replaced with higher skill opportunities. Kentucky is already experiencing a significant loss of low-skill jobs with the recent departure of several garment production plants. Without participation in postsecondary training and education, these workers and others face dim prospects today and in the future.

EDUCATIONAL ATTAINMENT AND A BETTER LIFE

As the workplace continues to undergo great change, more and more of Kentucky's workers will be at a disadvantage because of the low educational attainment of the current population. According to a 1997 Workforce Development Cabinet study, *Adult Literacy in Kentucky: Adult Education Changing Lives*, **between 40-44% of the**

Figure 6
Voting Participation in the U.S. by Level of Education Attainment
Percent Reporting They Voted in 1992 Presidential Election



Source: U.S. Bureau of the Census, statistical Abstract of the U.S. 1996 (116th edition) Washington, DC,1996

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current population does not have the skills to fully participate in the increasingly technological workforce. Tomorrow's, and increasingly today's, jobs will demand high skills and new and expanded educational requirements. Without access to and participation in postsecondary education, Kentucky's citizens will be further disadvantaged in the workplace of the future.

In addition to the economic benefits of education, evidence suggests that there are numerous non-quantifiable benefits that accrue to both the individual and to society as a result of additional education. The unique role of postsecondary education in developing well-rounded citizens cannot be overlooked.

Kentucky's citizens of tomorrow must be prepared to function in a global economy, to think critically, and to function productively in group decision making and consensus building. A broad educational experience provides citizens with transferable skills, which are critical for adjusting to the multiple careers individuals can expect to have during the course of a lifetime of work.

A broad general education also provides the foundation for a civic consciousness and an awareness of individual responsibility to others and to the community. Voter participation is one key measure of civic participation. Figure 6 demonstrates that there is a clear relationship between voter participation and educational attainment. This data was taken from the 1996 U.S. Census and shows the percentage of adults nationally who voted in the 1992 Presidential Election and their respective educational levels. This analysis establishes important linkages between education levels and various citizenship benefits. This is just one measure for some of the non-quantifiable benefits that are derived from education (U.S. Department of Commerce, Bureau of the Census).

CONCLUSION

Kentucky's economy has grown in recent years, but is still a relatively low income state compared to competitor states and the entire nation.

For Kentucky to achieve its full potential in terms of enhanced economic opportunity and an improved standard of living for its citizens, a firm commitment to education is a necessity. The reform of elementary and secondary education has been a priority in Kentucky for the last seven years. However, an improved postsecondary education system is also critical to the long-term future of this state. Evidence indicates that enhanced investment in postsecondary education is worth it – worth it to both the individual and the state at large.

Chapter 2 examines the current status of educational attainment and the postsecondary education system in Kentucky.

CHAPTER 2: A POSTSECONDARY EDUCATION SYSTEM UNPREPARED FOR THE NEXT CENTURY

INTRODUCTION

By almost any national measure, Kentucky lags other states in the educational level of its citizens; in many instances, it is significantly behind. The rapidly changing economy intensifies the negative impact. Although Kentucky has made progress in many areas of postsecondary education, the Commonwealth's educational level remains depressed. Kentucky's investment in postsecondary education has failed to lift the Commonwealth from beneath its competitor states in terms of educational attainment, and subsequently, per capita income. This chapter will discuss the following issues:

Educational Attainment. Kentucky still lags the nation and competitor states in educational attainment even as college-going rates have increased. Among competitor states, Kentucky's high school dropout rate is high and postsecondary degree production is low, especially in areas critical to the economy.

Educational Efficiency. The state's postsecondary providers continue to have numerous "low performance" (see page 25) and duplicative programs. No coordination exists to link the state's critical mass of postsecondary institutions to a statewide mission, to the regional economies or to prevent unnecessary duplication

Research Competitiveness. Kentucky lags the nation and competitor states in its research capacity as measured both by the ability to attract external funding and in recognition of the state's doctoral programs. Kentucky does not have a nationally-recognized research institution with a mission of excellence and promoting economic development.

These issues and Kentucky's continued low standing among its competitor states raises the question: ***"Is Kentucky's postsecondary education system prepared to meet the demands of its citizens in the next century?"*** An examination of the existing institutions, policies and organizational structure results in a definitive, *No.*

THE STATE'S POSTSECONDARY EDUCATION RESOURCES

Kentucky's postsecondary education system is broader than the system traditionally defined as "higher education." The state's capacity to raise the standard of living and enhance the well-being of citizens must include all postsecondary education resources. The current system includes:

- **Adult Basic Education and Literacy Programs**
  These include job-specific and workplace skills instruction; literacy and basic education; adult secondary education and GED preparation; the external diploma; English as a second language; and family literacy. These programs are coordinated by the Workforce Development Cabinet, which uses the services of more than 100 providers, including local school districts, literacy councils, technical schools and community colleges.

- **The Kentucky TECH System**
  This system offers diplomas, certificates and customized training through an array of technology centers and secondary programs under the authority of the State Board for Adult and Technical Education and the Workforce Development Cabinet. This system originally provided instruction in traditional manual arts, such as carpentry and welding, and now provides technical courses of study in health, business, and electronics of up to two years.

- **The University of Kentucky Community College System**
  This system consists of 14 community colleges which deliver programs for associate degrees, offer technical courses and provide a feeder system for four-year institutions. These colleges are all attached to the University of Kentucky. The community colleges were originally established to provide a course of study for the first two years of a baccalaureate degree. The colleges, however, now have multiple technical programs providing courses of study designed to prepare students to enter the workforce.

- **State-supported Universities**
  These eight institutions include two research and doctoral-granting universities and six undergraduate (associate and baccalaureate) and master's degree granting institutions. In addition to their primary focus, these institutions now include remedial and community college programs. These institutions have governing boards and are statutorily coordinated by the Council on Higher Education.

- **Independent Colleges and Universities**
  These are private, non-state supported institutions, which typically place a high priority on the liberal arts as well as preparing students in professional

and technical fields. There are 20 accredited independent institutions.

- **Proprietary Schools**
  These are private, for-profit institutions designed to prepare persons in specific career areas, including preparation for state and federal licensure requirements. There are currently 98 proprietary entities licensed in Kentucky.

- **Council on Higher Education (CHE)**
  The Council provides leadership to advance and maintain a postsecondary higher education system in the Commonwealth. Its duties include setting tuition rates, approving degree programs, and setting admission standards for the colleges and universities. Its responsibilities do not include oversight of the Kentucky TECH system.

CRITICAL ISSUES — FAILING GRADES

Kentucky's postsecondary education system has expanded over time. The community college system was established by the General Assembly in 1962. The regional institutions were elevated to university status by the General Assembly in 1966. In 1968, Northern Kentucky University became a four-year institution. The University of Louisville was accepted as a state-supported university in 1970. In 1982, the state's universities were given increased fiscal autonomy. The Kentucky TECH system was assigned to the Workforce Development Cabinet when that cabinet was created in 1990.

Despite the expansion of the postsecondary education system, Kentucky has not achieved passing grades on several indicators which are critical to enhanced economic and social well-being.

EDUCATIONAL ATTAINMENT — KENTUCKY FALLS BEHIND

Kentucky postsecondary education faces a challenge to improve the knowledge and skills of the state's population. Kentucky must face the reality that it continues to have a significant proportion of its population with low levels of educational attainment. ***However, simply increasing the knowledge and skills of the younger population will not be sufficient to meet the state's needs.***

The previously cited 1997 literacy report estimates that 40% to 44% of the state's adult population has "modest, minimal or no functional literacy skills." It is particularly the adult population, which today does not "fully participate" in the Kentucky economy, that will be key to increasing the state's economic competitiveness and per capita income in the future.

KENTUCKY FALLING BEHIND

40% - 44% OF KENTUCKY'S ADULT POPULATION HAS "QUITE MODEST, MINIMAL OR NO FUNCTIONAL LITERACY SKILLS."

Additionally, Kentucky's population is aging and most adults now currently working will remain in the workforce well into the 21st century. Because of its expected growth, this adult population will continue to be a critical source of the Commonwealth's workforce. According to U.S. Census Bureau figures, the percentage of the population ages 15 to 64 is expected to comprise up to 65% of the population by 2020. Kentucky cannot afford to ignore the needs of its growing undereducated adult population.

DROPPING OUT

One probable explanation for Kentucky's lagging educational attainment, especially among the adult population, is the state's high school dropout rates. Youth who drop out of high school continue to show up in the proportion of the population with less than a high school education. Although complete data on county dropout rates is not available, one important federal statistic highlights the problem. *According to U.S. Census figures, Kentucky ranks at the very bottom — in a near tie with Mississippi — among competitor states for the percent of its population with less than a high school degree* (Figure 7). In order to compete effectively, Kentucky must elevate the existing undereducated adult population to at least the high school diploma level.

While Kentucky's effort to reform elementary and secondary education is intended to raise academic expectations of students and lower the state's high school dropout rate, Kentucky still faces the challenge of raising the educational level of the adults in the workforce today. *It can be anticipated that an increasing number of the adults who lack a secondary education credential will find it necessary to return to*

KENTUCKY FALLING BEHIND . . .

ONLY 13% OF THE STATE'S ADULT POPULATION HAS COMPLETED A BACCALAUREATE DEGREE COMPARED TO THE NATIONAL LEVEL OF 20%.

KENTUCKY RANKS HIGH AMONG COMPETITOR STATES IN POSTSECONDARY ENROLLMENT, BUT NEAR THE BOTTOM FOR STUDENT COMPLETION.

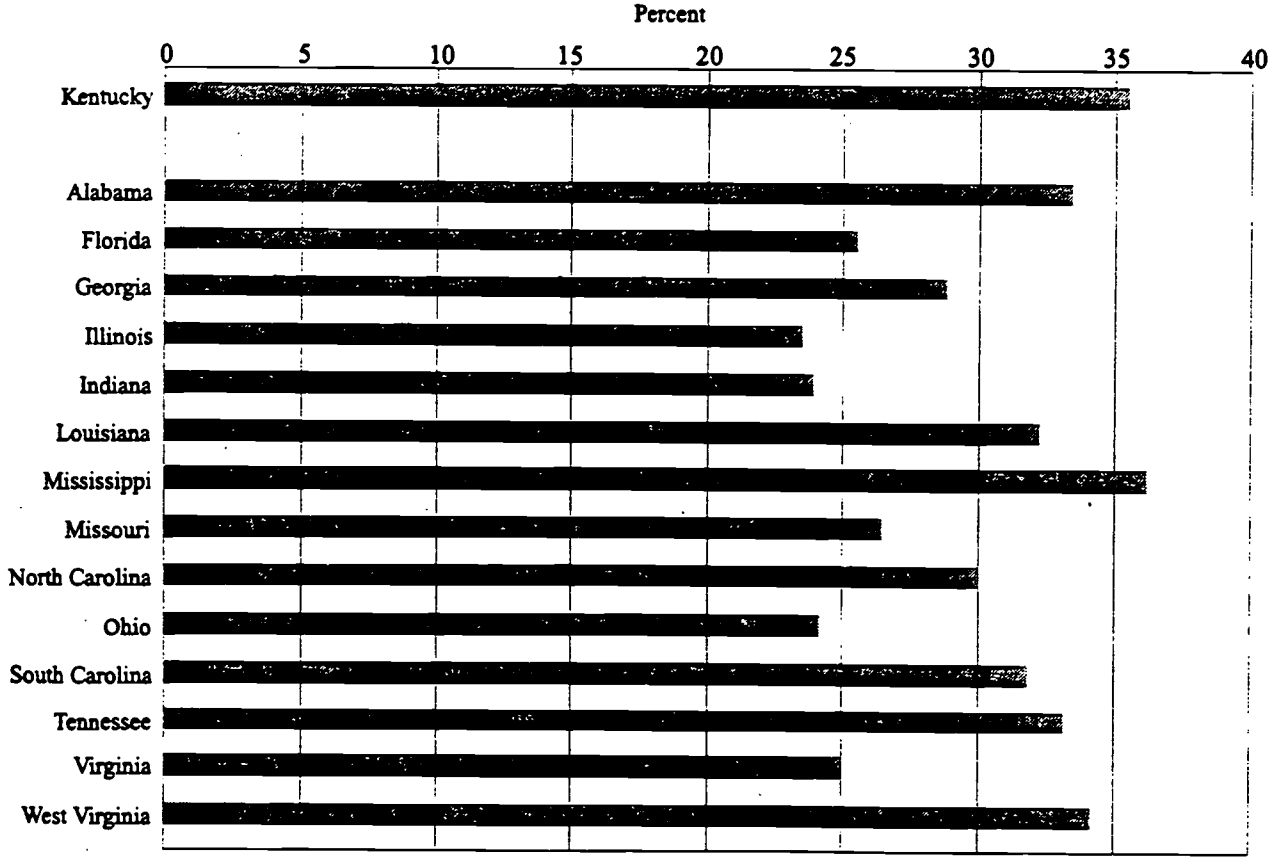
obtain a GED and additional postsecondary training and education.

INCREASING PARTICIPATION

Kentucky has made significant gains in college-going rates over the past decade. ***The college participation rate in Kentucky increased from more than 25% in 1985 to 37.8% in 1994.*** The greatest improvements occurred in southeast and south-central Kentucky. The percent of college enrollment — an indication of adult participation — also increased during that same period. It peaked in 1991, perhaps reflecting the higher enrollments that usually occur during periods of economic downturn.

Since the peak year of 1991, enrollment has continued a slight, steady decline. Overall enrollment in Kentucky's state-supported institutions and the Kentucky TECH system is currently decreasing. Kentucky

Figure 7
Educational Attainment of Adult Population, 1990
Less than High School



Source: U.S. Census Bureau

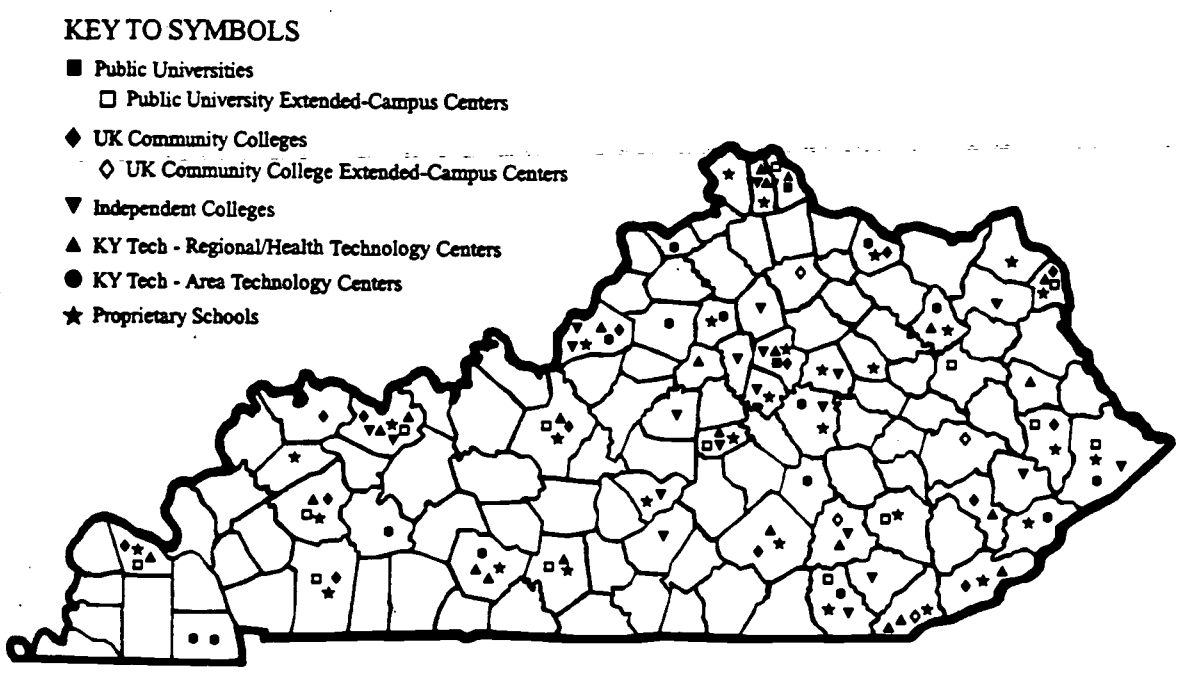
TECH is experiencing a decline in full-time enrollment, but an increase in part-time enrollment and in programs for upgrading skills, apprenticeship, continuing education and special training for incumbent workers. Although the number of students pursuing graduate, post-doctoral and first-professional degrees is increasing, as is the enrollment of African-Americans, women and adult (over age 25) students, these increases do not negate the overall steady decline in postsecondary participation in Kentucky.

PARTICIPATION AND PROXIMITY

While geographic accessibility of postsecondary education in Kentucky is highly concentrated, Figure 8 indicates that major gaps still exist in certain areas. The Commonwealth's rural configuration (particularly when the major urban areas are excluded), presents a geographic barrier to postsecondary education in selected areas and at certain educational levels.

Patterns of high participation in postsecondary education match almost

Figure 8
Post Secondary Education In Kentucky
By County



Note 1: For proprietary schools, one symbol ★ may represent more than one institution within a county (particularly in counties with a greater population density).
Note 2: A ◊ was used to designate the Lees College Campus of Hazard Community College.
Note 3: There are 32 Area Technology Centers that serve both full-time postsecondary and secondary students and do not offer postsecondary programs.

county-by-county to the location of public and independent institutions (Figure 9). This trend would suggest that access, as well as high school completion, plays an important role in the lagging educational attainment and postsecondary participation in the state.

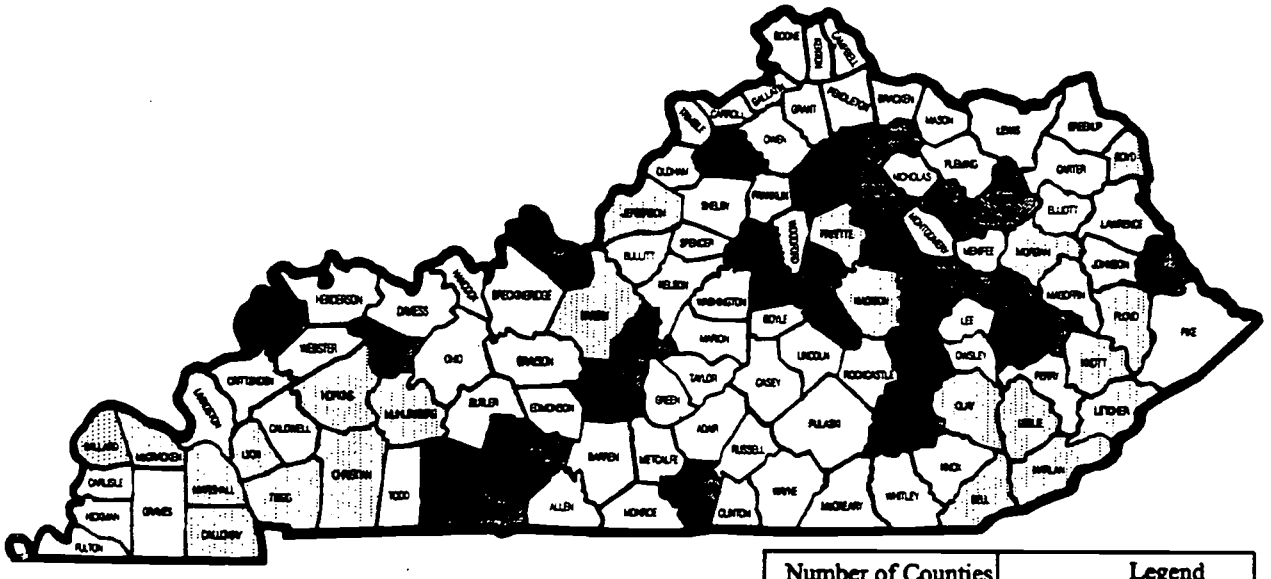
LOW PERSISTENCE AND GRADUATION

Despite Kentucky's gains in college participation over the past decade, the Commonwealth's postsecondary education system does a poor job in getting students through the system to a credential in a reasonable time period. The two common measures for this are persistence rates and graduation rates. A persistence rate measures the percentage of first-time, full-time degree-seeking freshman who either graduate, transfer to another state-supported institution or are still enrolled at the original institution at the end of a six-year period.

The latest data for Kentucky is for students who were first-time, full-time freshmen in 1989. ***The persistence rate for these students over a six-year period was 63.3%.*** While exactly comparable data are not available, national data demonstrate that Kentucky lags seriously behind other states.

Figure 9

Higher Education Participation Rates, Fall 1994
Participation in All Public Institutions



First-time, Full-time Freshman, Fall 1994 as Percent of High School Graduates, Spring 1994

Source: Commonwealth of Kentucky, Council on Higher Education and Kentucky Department of Education

Number of Counties	Legend
22.5% - 27	63-87%
23.3% - 28	52-62%
23.3% - 28	41-51%
30.8% - 37	18-40%

KENTUCKY FALLING BEHIND

KENTUCKY IS LAST (15TH) AMONG COMPETITOR STATES IN THE NUMBER OF BACCALAUREATE DEGREES RANTED IN COMPUTER SCIENCE ENGINEERING AND SCIENCE PER 1,000 HIGH SCHOOL GRADUATES.

KENTUCKY IS 14TH IN THE NUMBER OF ASSOCIATE DEGREES GRANTED AMONG COMPETITOR STATES.

Data from a national sample of first-time, full-time freshman in the same cohort (1989) from the National Center for Education Statistics (NCES) shows a persistence rate for five years of 77%. In other words, despite the shorter period – five years compared to Kentucky's six-year tracing period – ***the persistence rate for the national sample was 14 percentage points higher than for Kentucky's students.***

Graduation rates show the percentage of first-time, full-time degree-seeking freshmen who graduate within a specified period of time appropriate to the degree the students are seeking: three years for associate degree students, six years for a student seeking a baccalaureate degree, and three years from the year of transfer for a student who transfers with an associate degree and is seeking a baccalaureate degree. Again, Kentucky lags seriously behind other states in these categories. ***Only 36.8% of the first-time, full-time degree-seeking freshman in 1989 graduated from Kentucky's four-year institutions within six years.*** Again, exactly comparable national data is not available. But the NCES data from a national sample for the same cohort for a shorter period – five years – was 52%. In other words, a higher percentage of students graduated in the national sample in a shorter period than graduated in Kentucky in a longer time period.

The situation for students in the UK Community Colleges is more complicated, but still should be of concern. A critical mission of a community college is to serve students who seek short-term retraining or specific knowledge and skills, but who do not seek a degree. Therefore, it is inappropriate to calculate persistence and graduation rates to include these students. Nevertheless, it is appropriate to calculate these rates for those students who **do** express an interest in earning a degree. The data for the UK Community Colleges for degree-seeking students shows a persistence rate of 46.4% of the first-time, full-time degree-seeking freshmen. ***In other words, 46.4% of these freshmen had either graduated or transferred and were still enrolled three years later.*** Students who transferred were the largest group of persisters.

Figure 10

Estimated Degree Production Required for Kentucky to Reach National Averages

The estimates contained in this table were derived using both the number of young adults (17-29 year old) in the population and the number of high school graduates.

Type of Degree	Derived National Level	Current Kentucky Level	Difference	Percentage Increase Necessary for Kentucky to Reach National Levels
Certificates	9331	5681	3650	64%
Associate's	8456	6431	2025	31%
Bachelor's	17554	14584	2970	20%
Master's	5972	4222	1750	41%
Doctoral	672	397	275	69%

Source: NCHEMS, November 4, 1996

The graduation rate for UK Community Colleges for the 1990 first-time, full-time degree-seeking freshman was 13.8% within three years. While this may appear to be a low figure, it is comparable to other community colleges in the nation and reflects the mission of these institutions. Of more concern should be the low percentage of degree-seeking students who transfer from the UK Community Colleges to a university and receive a degree within three years. ***Of these associate degree students who transferred from one institution to another in Kentucky, only 1.9% earned a degree within three years and 41.6% were still enrolled after three years.***

This data suggests that a significant number of Kentucky students get into the system, but have difficulty in getting through the system to the credential they are seeking. Many factors may contribute to this situation. Some of the most frequent include: (1) The financial burdens students face in trying to pursue their education while trying to earn a living and, in many cases, to support a family; (2) difficulties student encounter in matching course schedules and academic calendars with work and family obligations; and (3) inadequate advising and counseling. Whatever the causes may be, Kentucky faces a severe problem that must be overcome if its degree production is to reach the levels of competitor states.

Low Degree Production

Although the total number of degrees conferred annually by the state's public colleges and universities increased by 21% between 1984 and 1994, Kentucky continues to fall behind the national average in terms of the number of degrees granted at every level. ***Figure 10 indicates that Kentucky would need***

to increase degree productivity at the certificate level by 64% and at the doctoral level by 69% to reach national average levels.

Kentucky is especially deficient in degree production in those areas critical to economic development. Although Kentucky is a leader in graduating students in the health arena, the number of engineering, science and business graduates is low. In fact, Kentucky is last (15th) among competitor states in the number of baccalaureate degrees granted in computer science, engineering and science per 1,000 high school graduates. With the economic changes in the country, these areas are essential to altering the state's economic future. Kentucky is also next to last (14th) in the number of associate degrees granted among competitor states, indicating a lower supply of highly-skilled technical workers who will be critical to the emerging economy.

If Kentucky is to compete effectively in the 21st century, the system must broaden its focus to include the growing portion of the population for whom access is limited. Kentucky's postsecondary education system has traditionally focused on high school graduates. But many factors, including the high dropout rate, the changing economy and the growing numbers of nontraditional students, demand change.

MASTER'S DEGREES: A LOOK AT INEFFICIENCY

THE AVAILABILITY OF MASTER'S PROGRAMS PROVIDES ONE EXAMPLE OF THE PROBLEMS OF "LOW PERFORMANCE" PROGRAMS. IN THE 1995-96 SCHOOL YEAR, 4,187 MASTER'S DEGREES WERE GRANTED IN KENTUCKY'S EIGHT PUBLIC UNIVERSITIES; 129 DIFFERENT KINDS OF MASTER'S WERE OFFERED. THIS IS AN AVERAGE OF 32.5 DEGREES ISSUED FOR EACH OF THE 129 DISCIPLINES. SINCE MANY INSTITUTIONS OFFERED THE SAME PROGRAM, THERE WERE ACTUALLY 286 MASTER'S COURSES OFFERED STATEWIDE. THIS IS AN AVERAGE OF 14.6 DEGREES PER PROGRAM.

IF FIVE IS CONSIDERED TO BE THE NUMBER OF MASTER'S DEGREES PRODUCED IN AN EFFICIENT PROGRAM, THEN AN ANALYSIS OF THE KENTUCKY OFFERINGS SHOW: 33% OF THE DISCIPLINES GRADUATED LESS THAN FIVE STUDENTS STATEWIDE. ON AN INSTITUTIONAL BASIS, 41% OF THE 286 INDIVIDUAL PROGRAMS OFFERED GRANTED LESS THAN FIVE MASTER'S DEGREES.

Kentucky's postsecondary education system also must ensure that students who leave college do so with a degree, or credential, in their hands. Degree productivity has increased by 44% for nontraditional students. But even with this encouraging trend, the low degree production at all levels of the system results in a workforce deficit in the next century.

EDUCATIONAL EFFICIENCY – LOW PERFORMANCE PROGRAMS AND HIGH DUPLICATION

Kentucky's postsecondary education resources are widely dispersed in mostly small, uncoordinated facilities. The result is a high degree of duplication, "low performance" programs and a lack of coordination for efficiency for students and improvement of regional economies.

LOW PERFORMANCE PROGRAMS

Current state policies provide few clear directions for the universities — and the system as a whole — to achieve efficiencies, eliminate low-performance programs, or develop joint or cooperative programs. The 1993 Higher Education Review Commission (HERC) attempted to address this problem by identifying "low performance" programs — programs that graduate comparatively few students each year. Using this approach, associate and baccalaureate degree programs averaging fewer than 10 graduates per year over a five-year period were determined to be "low performance" programs. At the master's level, degree programs averaging fewer than five graduates per year over a five-year period were determined to be "low performance" programs. At the doctoral level, degree programs averaging fewer than three graduates per year over a five-year period were determined to be "low performance."

A 1996 Council on Higher Education review of degree programs statewide indicates that almost one-half, or 45%, are "low performance" programs. Figure 11 provides summary data on low performance programs for the state's universities and community colleges. ***Of the 1,142 degree programs offered across the state, 511 are "low performance."*** For the individual universities, a range from 43% to 75% of all degree programs are "low performance." Similarly, "low-performance" programs at indi-

Figure 11

Kentucky 1995-96 Degree Production Low Performance Programs

Associate - Community College System*	38%
Associate - Universities*	60%
Baccalaureate*	45%
Masters**	41%
Doctoral***	33%

*Low Performance - fewer than 10 degrees in 1995-96
**Low Performance - fewer than 5 degrees in 1995-96
***Low Performance - fewer than 3 degrees in 1995-96

vidual community colleges range from 14% to 60%.

In some cases, "low performance" programs may be justified; for example, to provide access to special populations or to meet state needs. But "low performance" programs can also be an indication of the failure of institutions to set priorities and eliminate programs. That several universities offer the same degree program and none of them graduate more than five to 10 students each year raises a basic question about the adequacy of state leadership by the Council on Higher Education and the incentives in the financing policies. *Why are institutions not held accountable for eliminating unnecessary programs? Why are there not strong incentives for two or more universities to work together to share resources and deliver programs jointly or cooperatively?* Despite the efforts of the HERC, the numbers suggest that Kentucky still has a major problem.

There are also numerous examples of programs on two or more campuses that graduate fewer than 10 students statewide. For example, one major is offered on five campuses and had a total of nine graduates in 1996.

Figure 12 shows the number of "low performance" programs distributed at universities across the state. An example from the chart is indicative of the problem. Why are five universities offering the same six academic programs at the baccalaureate level, but each of these programs averaged less than 10 graduates in 1995-96?

Figure 12

Low Performance Degree Programs 1995-96

BACHELOR'S (Averaging Less than 10 Degrees Per Program)	
Number of Degree Programs	**At Number of Universities**
6	7
3	6
6	5
3	4
4	3
14	2
45	1

MASTER'S (Averaging Less than 5 Degrees Per Program)	
Number of Degree Programs	**At Number of Universities**
2	7
1	6
5	5
1	4
4	3
7	2
32	1

Note: These figures are calculated by taking the number of degrees conferred in 1995-96 and dividing by the number of programs offered.

Figure 13

CIP Codes Shared by Kentucky Tech and UK Community College System
(P = Number of Programs)

CIP	KY TECH TITLE	P	COMMUNITY COLLEGE TITLE	P	TOTAL
15.0401	Biomedical Equipment Technician*	2	Biomedical Engineering-Related Techno/Technician	1	3
15.0403	Electromechanical Techno/Technician*	1	Electromechanical Techno/ Technician	4	5
20.0202	Child Develop. Services**	3	Child Care Provider/Assistant	3	6
48.0102	Architectural Drafting**	1	Architectural Drafting	1	2
50.0402	Visual Communications*	1	Graphic Design, Commercial Art & Illustration	2	3
51.0907	Radiological Tech*	6	Medical Radiological Techno/Technician	5	11
51.0908	Respiratory Care Technician*	9	Respiratory Therapy Tech.	5	14
52.0302	Accounting Assistant*	8	Accounting Technician	4	12
	TOTAL	**31**		**25**	**56**

* Indicates articulated/joint program with another educational institution.
** Indicates that articulation agreements are pending.

While the Council on Higher Education publishes the data, it has not effectively addressed the duplicative offerings of "low performance" programs. There are prime examples of how current policies encourage institutions to add new programs without first examining old programs — or how current policies allow one institution to add new programs without seriously considering that an alternative might be to offer the program cooperatively within another university using technology, shared faculty or other more cost-effective means.

Program productivity is less easily documented for the Kentucky TECH system. Although data indicates high placement rates for Kentucky TECH students, the data sets available largely identify total dollars spent and number of graduates, which is of little value in comparing the state's other institutions as it is not gathered in similar units of measurement. Much of the course activity is contractual with business and industry and may range from a few hours to several days. These activities, while important, do not generate certificates or diplomas. The nature of the work of the Kentucky TECH programs makes it difficult to quantify using any measure comparable to other postsecondary institutions or to technical programs from other states.

HIGH DUPLICATION AT THE LOWER DIVISION

Program duplication has long been an issue in postsecondary education. The problem seems to be most acute between the Kentucky TECH system and the community colleges. These institutions offer duplicate programs, sometimes on adjoining campuses. The community colleges produce more vocational/technical degrees than associate degrees. Figure 13, from the Legislative Research Commission's Workforce Training Report (November, 1995), shows the Classification of Instructional Programs (CIP) codes, which is a common system used in postsecondary education. This data demonstrates the high duplication. Among eight program codes shared by the two systems, there are 56 total program offerings.

Figure 14

CIP Codes Shared by Kentucky TECH and the Universities
(P = Number of Programs)

CIP	KY TECH TITLE	P	UNIVERSITY TITLE	P	TOTAL
01.0601	Horticulture	1	Horticulture Services Operation & Mgmt, Gen	1	2
15.0403	Electromechanical Techno/Technician*	1	Eelectromechanical Techno/ Technician	1	2
15.0603	Manufacturing Systems Technology	1	Industrial/Manufacturing Techno/Technician	1	2
20.0202	Child Develop. Services**	3	Child Care Provider/Assistant	2	5
20.0401	Food Services Technology	6	Institutional Food Workers & Administrators	2	8
48.0101	Computer Asst. Drafting**	12	Drafting, Gen.	4	16
48.0102	Architectural Drafter**	1	Architectural Drafting	1	2
48.0508	Welding	16	Welder/Welding Technologist	1	17
51.0801	Medical Assisting**	6	Medical Asst.	1	7
51.0904	Paramedic*	1	Emergency Medical Techno/ Technician	1	2
51.0907	Radiological Tech*	6	Medical Radiological Techno/ Technician	3	9
51.0908	Respiratory Care Technician*	9	Respiratory Therapy Technician	2	11
52.0401	Office Technology*	16	Admin Asst/Secretarial Science, Gen.	3	19
	TOTAL	**79**		**23**	**102**

* Indicates articulated/joint program with another educational institution.
** Indicates that articulation agreements are pending.

Historically, linking the postsecondary technical school programs and course offerings with other higher education initiatives in the state has been difficult. Figure 14, also from the LRC's Workforce Training Report, indicates course duplication across the entire system which may have resulted from this lack of coordination. As noted in the chart, 13 identical CIP codes are shared across the systems, representing 102 total program offerings. The postsecondary community has demonstrated little interest or willingness to coordinate program and course offerings. The Kentucky TECH system has tried with little success to address this problem through an articulation process developed to assist student transition from the technical schools to other postsecondary institutions. The goal is to ease transition for students, eliminate course duplication, increase transferability of course credits and maximize utilization of funding, facilities, equipment, and personnel. But this process has been exceedingly cumbersome and time consuming.

Efforts to enhance transferability have been arduous, requiring detailed reviews of course curricula, textbooks and instructional programming by staff and faculty from each institution involved. Obstacles to more timely and productive agreements include dissension over course content, differences in staff credentials and autonomy across the education system. The magnitude of the problem can perhaps be best explained by example. ***In several cases, Kentucky TECH articulation agreements have been established with out-of-state institutions with few or no problems, while simultaneously rejected by in-state colleges and universities.*** West Kentucky TECH has reached articulation agreements with Southern Illinois University which have not been established with Paducah or Hopkinsville Community Colleges. The Cumberland Valley Health Technology Center has an agreement with Lincoln Memorial University in Tennessee for acceptance of a 32-credit-hour block for graduates of the TECH programs. No such agreement has been possible with any of the state's community colleges. Although two private colleges in Kentucky, Union and Cumberland, did accept articulation agreements with Cumberland Valley.

As another example, statewide system-to-system articulation agreement meetings were initiated in the fall of 1994 with representatives of the Kentucky Department of Education, Department for Technical Education, community colleges and regional universities to establish a statewide agreement in early childhood education, electronics and computer-related courses. Many regional and statewide meetings occurred for each program area. Faculty from all involved institutions spent hours reviewing lesson plans, textbooks, exams and instructional methodology. Finally, after two years, an agreement was implemented on July 1, 1996. ***It should be noted, however, that there is no mechanism for system-wide negotiation either among the regionals or the community colleges.*** Each individual

institution must be involved in the negotiations and must agree to the articulation. Such an arduous task seriously impedes the efficiency of postsecondary education.

Those who suffer most from the lack of coordination among Kentucky's postsecondary institutions are students and employers. Students need the services and coordination to raise their standing of living and obtain essential skills. Employers need the workforce necessary for survival in an increasingly aggressive economy. The duplication and lack of coordination results in the following:

- **Regional economic development initiatives are undermined because business leaders considering Kentucky are faced with a series of squabbling, uncoordinated interests rather than a coherent workforce strategy.**
- **Students who could benefit from a combination of technology and academic skills, services of both Kentucky TECH and the community colleges, are caught between the systems.**
- **Neither the community colleges nor Kentucky TECH have a clearly defined mission to serve the undereducated adult population — especially those who need joint basic skills remediation and vocational training.**
- **Students in one system are denied access to technology and support services readily available in another. For example, one Kentucky TECH branch is not connected to the Internet because of insufficient phone lines. Next door, on the same campus, the regional university has a T-1 line with immediate and direct access but this service is inaccessible to Kentucky TECH.**

The providers say that the horror stories we hear from students and business are overstated and that a seamless system may jeopardize accreditation. If students, traditional or nontraditional, have difficulty accessing the system through multiple points, then the system has failed.

DUPLICATION AND A LACK OF COORDINATION AT THE UPPER DIVISION

While there is little coordination among community colleges and the Kentucky TECH system to coordinate adult education and workforce needs, there is an equally serious problem of program duplication and off-campus centers in the upper division graduate and baccalaureate programs in the state's postsecondary education system.

Despite the policies of the Council on Higher Education for extended campus coordinating regions, there has been a proliferation of off-campus sites and centers. At least 90 of Kentucky's 120 counties have an extended campus presence from at least one of the 8 regional universities. These extended campus coordinating regions have worked well in the past. However, they are becom-

ing increasingly inefficient as the institutions stumble over each other in attempts to reap rewards of a funding formula for serving new communities and generating new credit hours. The controversy over the proposed siting of an extended campus for engineering is only a symptom of problems likely to develop in every metropolitan area of the state.

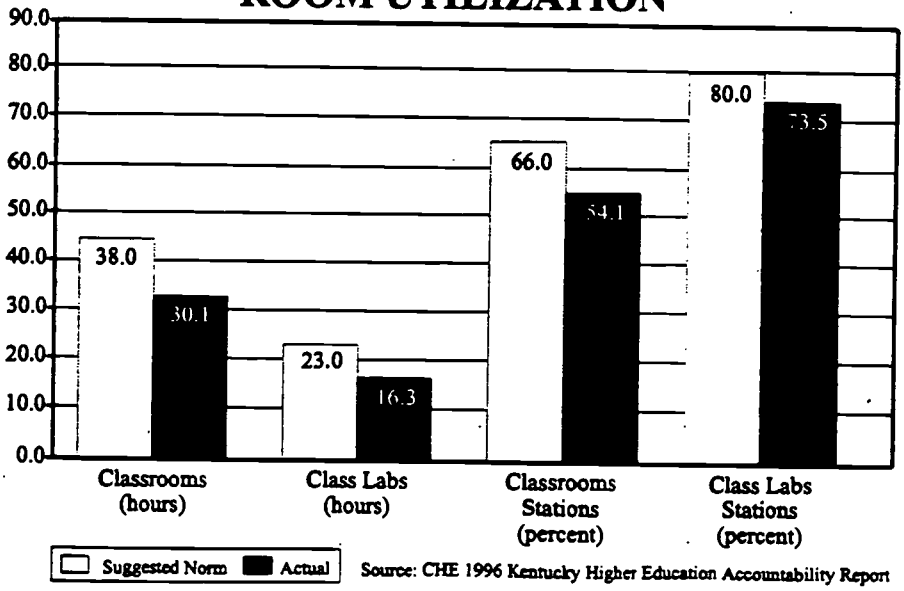
Place-bound students and their communities are increasing demands for access to upper division programs that are important to their future economic development. Communities that do not have four-year institutions will continue to demand that access. The challenge for Kentucky is to find ways to meet these needs through the use of technology and other means to prevent the proliferation of new facilities, new programs and, potentially, new campuses.

Ironically, the University of Kentucky, through its community college system, is often pitted against regional universities in efforts to offer lower division courses across the state. Though there are demonstrated needs for both lower and upper division courses, one would not expect the state's leading research university to be a major competitor for the delivery of lower division courses, but rather to deliver specialized upper division and graduate programs to support its statewide mission.

POOR UTILIZATION OF ON-CAMPUS FACILITIES AND OTHER INEFFICIENCIES

Use of physical resources is yet another example of the inefficiency with which the system is plagued. Kentucky's classrooms are largely underutilized. Campus space utilization rates are below the comparative norms used by the Council on Higher Education in its *Kentucky Higher Education Accountability Report* (1996). Physical resources are underutilized even as demands for additional and expanded campuses are voiced. System wide, institutions averaged 30.1 hours of weekly classroom use compared to a suggested norm of 38.0 hours weekly (Figure 15).

Figure 15
ROOM UTILIZATION



The list of inefficiencies to coherent, coordinated services among the various postsecondary institutions is lengthy. Kentucky TECH functions on a clock-hour system that is difficult to coordinate with the credit hour system of the colleges and universities. Different calendars make class schedules and other details extremely problematic to coordinate. Kentucky TECH is treated for the purposes of personnel, purchasing and budget not unlike a unit of the Transportation Cabinet. The personnel system provides limited flexibility for responding to changing workforce and student needs. Separate and conflicting admissions, student records, attendance and student aid eligibility policies create substantial bureaucratic barriers for students.

REGIONAL ECONOMIES AND PICKET FENCES

Kentucky's postsecondary capacity to respond to regional and statewide economic needs is seriously hampered by bureaucratic barriers, duplication, conflict and poor coordination. The lack of a common economic development purpose among all institutions of postsecondary education hinders development of a well-educated workforce and research-driven economy.

The state's capacity to address this economic development priority is splintered among several uncoordinated, and competing duplicative entities. These separate institutions share many common goals but have developed independently. In many cases, they are divided by long-standing rivalries. In virtually every region, units of each systems are often located in close proximity, sometimes even on the same campus. A set of "picket-fence" relationships among each entity and its state-level sponsor (UK, Workforce Development Cabinet and the Council on Higher Education) simply reinforces the divisions at the local level. Kentucky TECH administrators are constrained by complicated state regulations governing every dimension of their work from personnel assignments to printing requests. Community college administrators face a constantly shifting set of policies and priorities — often perceived as responding to changing political realities more than to the needs of the state's regions.

KENTUCKY FALLING BEHIND . . .

32ND IN THE NATION IN 1993 IN PRODUCTION OF DOCTORAL SCIENTISTS.

39TH IN THE PRODUCTION OF DOCTORAL ENGINEERS.

RESEARCH COMPETITIVENESS — QUESTIONABLE AT BEST

Research and development is also vital to the growth of regional and state-

wide economies. A look at the state's doctoral programs, its research and development initiatives, and funding for research within the state identifies an issue of major concern regarding Kentucky's research competitiveness.

Kentucky does not have a nationally recognized doctoral degree-granting institution. Neither the University of Kentucky (UK) or the University of Louisville (UL) have programs which consistently rank at or near the top in national rankings. Of 40 doctoral programs for which the National Research Council publishes national rankings, UK had six in the top half and UL had one. UK offers 29 of the 40 programs reviewed. ***The highest ranking given to a UK program was 31 of 127 for the Arts and Sciences Pharmacology program.*** UL offers 11 of the 40 programs. The highest ranking given to a UL program was 76 of 194 for the Biochemistry/Molecular Biology program.

Kentucky does not have a world-class research institution with a primary focus on graduate education. There is evidence to support the contention that the existence of such institutions are "spurs" to economic development. World-class research institutions attract business and industry and become a breeding ground for entrepreneurial talent.

The University of Kentucky is the major flagship institution of the Commonwealth from three perspectives: 1) graduate education; 2) professional education; and 3) community college education. There has been some debate within the education community about whether UK's research focus is dispersed due to its maintenance of the community college system.

In contrast to virtually every other major research university in the country, ***Kentucky's major research university's mission is dispersed across far broader categories: remedial education, lower division courses, workforce training, and graduate education. No other major research university among Kentucky's competitor states has such a breadth of mission.***

Other research universities that at one time had two-year campuses have since focused their emphasis at the branch campus level. These universities have extended their upper division courses and graduate programs across the state and delegated other systems to clearly focus on lower division and workforce programs. The Kentucky pattern contrasts sharply with the trend across the country to focus leadership around distinct missions, i.e., major research universities in contrast to remedial and workforce development systems. In states where there has been an effort to link research universities with other institutions, their respective missions have been homogenized their resources scattered. The results then can be that these states have neither an outstanding research university nor an effective system for workforce development.

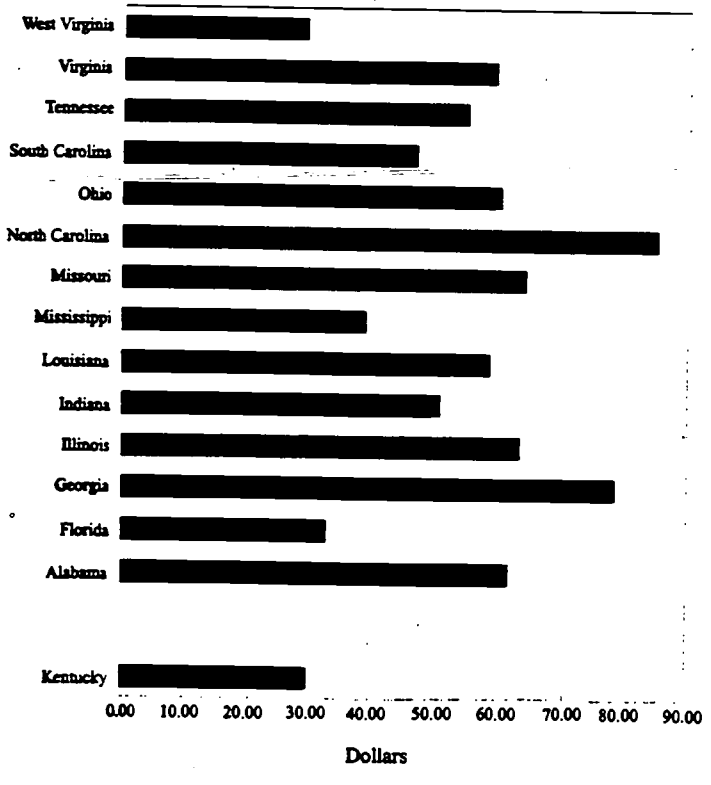
Kentucky's Postsecondary education is not nationally competitive in terms of research quality. In 1994, Kentucky ranked 35th in the nation in terms of academic research and development funds. ***Kentucky is last (15) among its competitor states in research and development funding per capita.*** Kentucky universities are not competing effectively with other states and universities for federal research funding (Figure 16).

Figure 16 illustrates that research and development expenditures per capita among those competitor states with one or more focused research universities such as North Carolina, Georgia and Indiana, are able to attract two to five times the federal funding of Kentucky. Research and development funding provides communities with a competitive position for additional spin-offs which strengthen the statewide economy.

In fact, Kentucky universities devoted more of their institutional budgets — funds derived from general state appropriations and tuition — for research and development than most of the competitor states, suggesting that the universities must divert funding that would be devoted to instruction in an effort to maintain their research missions. Not surprisingly, research rankings indicate that Kentucky's doctoral programs are not highly regarded.

Figure 16

Total Research & Development Expenditures Per Capita 1994



CONCLUSION

The Commonwealth has an undereducated citizenry and a postsecondary education system marked by fragmentation and conflict. Enrollments are static at a time when postsecondary education is critical to the development of a vital economy and an improved quality of life. The next chapter examines the barriers within Kentucky's postsecondary education system which currently prevent the Commonwealth from raising its level of excellence.

CHAPTER 3: BARRIERS TO EXCELLENCE

INTRODUCTION

Why has Kentucky failed to reach its postsecondary education goals and, subsequently, failed to raise the educational attainment and economic competitiveness of its citizens? Many barriers in the state's postsecondary education system itself contribute to Kentucky's failing grades. The most significant barrier is the lack of an effective statewide structure to coordinate all of the state's postsecondary education resources and provide a strategic vision. Additional barriers include limited access, financial limitations and organizational structure.

BARRIER I — A LACK OF LEADERSHIP

Kentucky lacks an effective structure for statewide policy leadership in postsecondary education to achieve common goals and coordinate the efforts of its diverse educational institutions. The General Assembly created the Council on Higher Education (CHE) in 1934. ***Over the years, the authority of the Council has been increased or decreased following political battles over who should control the future of postsecondary education in Kentucky.***

The Council has fallen far short of its potential. Kentucky, like many states, must confront the reality that systems designed to meet the needs of this century will not be adequate to meet the challenges of the next. Today, the Council is not perceived as having the credibility needed to lead and coordinate the postsecondary education system into the 21st century. Council membership and staff are not viewed as the Commonwealth's principal spokespersons nor as advocates for the public interest in postsecondary education.

Recent history provides examples, such as the controversy between Murray State University and the University of Kentucky over the delivery of engineering curriculum through the Paducah Community College. This decision, like many others,

should have been made in a logical way by the Council. Instead these decisions are made by governors, legislatures or institutions based on political considerations. Many people believe, as reflected in the results of recent focus groups organized by the Task Force on Postsecondary Education, that Kentucky needs a credible coordinating body. Even several past chairs of the Council frankly admit its shortcomings.

Examples of the Council's shortcomings include:

- **The Council is not sought as the principal source of advice on strategic budget issues and other matters affecting the future of the state's postsecondary education system;**
- **The Council funding formula was ignored as a tool for distributing scarce state resources from 1992-1994;**
- **The Council is perceived as unable to deflect regionalism and other dimensions of Kentucky's political culture;**
- **The Council is characterized more by "political accommodation" than by policy leadership on education issues; and,**
- **The Council is widely perceived as ineffective in handling controversial issues, such as curbing unnecessary program duplication and handling the political consequences.**

The Council also has no leadership role or coordinating authority for community colleges and technical education. The University of Kentucky insists that the Council consider the community colleges as a single system for the purposes of funding decisions and accountability. The Council's authority does not extend to the Kentucky TECH system. As a consequence, the Council is not able to take a broad perspective encompassing all postsecondary education resources in the state. These gaps include key functions such as program approval and postsecondary data collection.

As discussed above, the Council is not an effective leadership entity for postsecondary education in Kentucky. Through recent history, the University of Kentucky, with its prestige and statewide political networks, and the regional universities, with their ties to key legislators, have been able to ignore or negate the Council policies that ran counter to their interests. At the same time, the history of the institutional governing boards in Kentucky has been one of strong ties to regional political interests. These local boards have demonstrated uneven success in setting clear directions for and overseeing institutional performance. Even with the Higher Education Nominating Committee and the governor's commitment to make strong board appointments, Kentucky still does not have effective structures and policies to hold governing boards publicly accountable for responsiveness to state needs.

BARRIER II — NO LINKAGE TO A STATEWIDE STRATEGIC MISSION

The state's postsecondary institutions are not linked to the state's strategic goals. Today, institutions have no incentive to look beyond their individual campuses as they establish policy goals. For example, one institutional board member noted that he could never recall during board deliberations discussing the relevance of campus programs to the economic development needs of the state.

The Council on Higher Education has a strategic plan. However, this plan is not developed with input from the governor and legislative leaders. Instead, it is negotiated with the institutions; therefore, institutional priorities, and not state priorities, emerge. The Council's strategic plan also is for a short term of five years and does not reflect a public agenda for postsecondary education linked to a long-term vision for the state. A strategic vision for the institutions must be developed to ensure their policy directives and funding decisions link them as full partners in the achievement of state goals.

BARRIER III — A LACK OF STRATEGIC FINANCIAL PLANNING

The allocation of resources drives postsecondary education decisions. In 1982, a "formula" was developed to ensure fair and equitable allocation of funds among the higher education institutions. It was anticipated that a "formula" would decrease the political infighting and turf battles that had existed among these institutions. (The Kentucky TECH system is not funded according to the formula. Appropriations for this system are provided through the state general fund for the Workforce Development Cabinet.)

This funding formula model consisted of two components: (1) an analysis of the funding needs of higher education in Kentucky compared to funding levels in surrounding states; and (2) a distribution policy to determine the allocation of funds among the institutions. The first component of the formula identified the funding needs of higher education for the governor and General Assembly. The level of appropriations to higher education never achieved these funding needs as identified by the "formula." The formula distribution policy instead was used to allocate appropriated funds among the institutions.

The formula served higher education well during much of the 1980s. This was a period of enrollment growth and the formula was primarily enrollment driven. That is, as campus enrollments grew, the formula provided for an increased need for appropriations based upon increased student credit hour production. An underlying principle of the formula was the con-

cept of "common funding for common activities." Each instructional activity on the campuses generated similar funding, i.e., a student credit hour of introductory English was valued the same at one institution as at another institution. The formula provided for a three-year average of student credit hour production to determine campus funding needs. Hence, as campus enrollments grew, the formula provided a buffer for the state.

While the universities have accepted the formula as a means for allocating state resources, problems with the formula and the broader higher education funding environment have emerged, for example:

- Institutions have discovered that they may seek additional appropriations, or "add-ons," outside the formula. Institutions may identify programs and activities and seek political support to fund these activities even when they are not funded as part of the formula. Once a campus has a program or activity funded as an "add-on" outside the formula, this additional funding becomes part of the institution's recurring base. As a result, institutions have had strong incentives to seek appropriations that are not part of the formula calculation.

- The formula rewards growth. However, an enrollment-driven formula in a period of changing demographics rewards the wrong types of behavior. The formula provides funding incentives to enroll students who, in many cases, should not be enrolled in the four-year institutions, i.e., many of the institutions receive additional funding for the provision of remedial education in English and mathematics. Therefore, the formula suggests to the college campuses that quality is much less important than quantity of courses.

- The formula encourages competition among the institutions for the same pool of students. Again, the changing demographics of the 1990s has meant that institutions were often competing with each other for the same students. Students who might be better served by enrolling in the community college system (or the Kentucky TECH system) are often encouraged to attend the four-year institutions.

- The formula offers no direct incentives for collaboration and coordination. In fact, collaborative and cooperative efforts can be stifled because of concerns by the campuses as to which will receive rewards for the production of student credit hours.

- The formula has lost credibility with both the executive branch and the General Assembly. In recent years,

budget requests recommended by the Council on Higher Education were often viewed as being unrealistic and, in some budget years, the formula would call for nearly all the increase in state revenues to be appropriated to higher education. As a result of this loss of confidence, the formula was totally disregarded by policy makers in both the executive and legislative branches in both the 1992 and 1994 biennial budgets.

- **The formula does not provide sufficient incentives for enhanced national competitiveness of research and graduate programs, nor differentiated missions at the regional institutions or shared program delivery among institutions.**

While some might suggest that the formula has served Kentucky well, the formula must be modified to create incentives for change. The current formula is a barrier to the postsecondary education system's ability to accomplish its goals. A revised funding approach must be undertaken that provides strong financial incentives for institutions to eliminate unnecessary programs, to take other actions to improve productivity, and to generate resources for new initiatives. A new formula directly linked to a statewide public agenda is necessary.

BARRIER IV — A LACK OF STRATEGIC PLANNING FOR TECHNOLOGY

Technological access is key to reaching remote areas of the Commonwealth and place-bound individuals or employed workers wishing to participate in postsecondary programs. The increasing numbers of nontraditional learners offer new access challenges. These students, often returning adults, have jobs and careers as well as family who depend on them. They must juggle schedules and finances to go to college. Few programs exist within the state that are planned specifically for "just in time" learning or for the student who can pursue a degree only within alternative time and place options.

Kentucky has an enviable emerging capability through the statewide communications "backbone" and the availability of interactive classrooms. However, these systems are already approaching maximum utilization and ***no statewide commitment exists to strategically plan for the deployment of technology.*** Decisions about technology are left to the individual campus leadership or the Workforce Development Cabinet.

Degrees of technological advancement vary from campus to campus, especially at the collegiate level. Postsecondary technical and community college campuses also fail to maximize scarce resources in this

area. Each institution approaches decisions regarding technology independently without any commitment to statewide standards or architecture. Examples of cooperation in academic program development and implementation exist, but they are too few and rely too much on local initiative.

In its final report delivered in October, 1996, the Commission on Higher Education Institutional Efficiency and Cooperation recommended that Kentucky's postsecondary institutions explore the use and potential effectiveness of new technologies. The Commission found that technology was a greatly underutilized resource in the state and should be used to:

- **improve distance learning delivery;**
- **strengthen interinstitutional communication;**
- **improve management practices; and**
- **enhance academic programs and provide access to higher education across the state.**

Among the Commission's top recommendations was the creation of a "virtual" university in the Commonwealth. This Commonwealth Open University would represent a collaborative effort among the postsecondary institutions to use various interactive learning technologies to provide maximum access to citizens and improve instructional efficiency.

A postsecondary education system that is not technologically proficient is a system with limited ability in many ways. This situation will become exacerbated in the future as the world and more of its functions become technologically based. The lack of a comprehensive, strategic approach to the use and sharing of technology across the postsecondary system creates barriers of access for students, prevents greater cooperative programming among institutions and results in a lack of exposure for students to the latest in technological advancements.

BARRIER V— FINANCIAL BARRIERS FOR STUDENTS

As residents of a relatively poor state, Kentucky students often do not have access to the funds necessary to attend postsec-ondary education. At several state institutions, more than 50% of the students are eligible for needs-based financial aid programs. Adult students also face the additional ancillary costs of child care, transportation, and simultaneous employment. The following list identifies a few of the current barriers in Kentucky's student financial aid system today:

- **Future needs for student aid are not linked to current planning by the Council on Higher Education;**

- **Nontraditional, middle-income and place-bound students still have difficulty accessing the necessary aid to attend postsecondary institutions;**

- **Student financial aid policies provide assistance for access, but few incentives for students to advance through the system, achieving degrees efficiently and expeditiously; and,**

- **The agency responsible for student aid is limited in its ability to compete nationally for loans because as a state agency it is hampered by governmental requirements.**

The Kentucky Higher Education Assistance Authority (KHEAA) made grant awards to about 25,000 students in the 1995-96 school year; however, there were over 14,000 eligible students who did not receive a grant award due to insufficient funding for student financial aid. Although Kentucky appropriated approximately $27 million for grant awards in the 1995-96 school year, approximately 16 million in need went unmet for eligible students under the current student financial aid grant program.

PREPARATION FOR THE 21ST CENTURY — NEW REALITIES

The foregoing discussion on the barriers to achieving excellence in Kentucky's postsecondary education system is based largely on demands as they currently exist today. But the situation may become even more serious given the national and international trends. Demands from students, business and government are having increased effect on postsecondary institutions around the world. Dynamic changes are occurring in other states and major industrialized nations that are not reflected in Kentucky's current system. These factors indicate that Kentucky's postsecondary education system is not only ineffective in dealing with the demands of today, but is also ill-prepared for the realities of the next century.

DEMANDS FROM STUDENTS, EMPLOYERS AND GOVERNMENT

The world's major industrialized countries are facing unprecedented demand for postsecondary education. This growing demand, driven by societal and economic changes, are making traditional approaches to projecting demand for postsecondary education obsolete.

As demand increases, the very nature of the demand is also changing in fundamental ways. Students are demanding:

- **Increased curricular relevance to employment in the changing economy;**

- **Greater responsiveness to circumstances of geography, time, and requirements of work and family;**

- **Increased articulation, transferability and recognition of learning gained through employment or other nontraditional means;**

- **Contained student costs and increased availability of student financial assistance; and,**

- **Credentials that will enhance mobility, status and economic security in a global economy.**

These national trends were reflected in student testimony to the Task Force. In addition to new student demands, postsecondary education is being pressured by employer demands for:

- **Increased ability to think critically;**

- **Higher levels of knowledge and skill;**

- **Increased ability to function in a global economy;**

- **Increased emphasis on workplace skills; and,**

- **Increased responsiveness to changing practices in production and management.**

In his presentation to the Task Force, Lee Todd, Jr., president of Data Beam Corporation, said students are not being trained for modern jobs. He said the increase in the knowledge-based industries will continue to drive the increasing educational demands of students.

Students and employers are being joined by governmental officials in raising new expectations for postsecondary education. Government is demanding:

- **Increased responsiveness to public priorities; and,**

- **Increased productivity and cost-containment.**

THE IMPACT OF TECHNOLOGY

Technology is fundamentally changing postsecondary education. The reliance of the global market on technology is forcing an escalation of technological instruction. For example, Purdue University now offers an accredited masters degree in business administration on the Internet. Geographic boundaries or "service areas" are becoming meaningless in establishing policies to target resources and for accountability. Technology is fostering a shift from an emphasis on teaching to an emphasis on learning and from a "provider-driven" to a "client/learner-driven" system.

Changing demands and the impact of technology are forcing nations to fundamentally rethink the postsecondary education delivery system. Policies designed for the past simply cannot change fast enough to keep pace with escalating demands. Flex-

ibility and responsiveness are the keys to a postsecondary education system which effectively serves students, employers and the public.

A CUSTOMER-DRIVEN FUNDING PROCESS

Many presentations to the Postsecondary Education Task Force identified increased funding as a major need for the system. The current formula for funding the four-year institutions and the community colleges is primarily enrollment driven. The postsecondary education technical schools are funded as part of state government. Because the budget is a major policy tool for allocating limited state resources, it is imperative that resources allocated to postsecondary education are expended efficiently and linked to statewide strategic priorities.

The "needs" component of the Council on Higher Education funding formula model has generated budget requests that have historically been viewed as not affordable. As a result, the formula was not used by the governor and General Assembly from 1992-94. ***The failure of the formula to clearly identify "need", coupled with state budget cuts in the early 1990s, resulted in a postsecondary education system that is most often described as "underfunded."***

Because the model typically generated what policy makers considered as unrealistic funding requests, the Council on Higher Education "recalibrated" the "need" component of the formula to decrease the system-wide funding requirements. As a result, the Council's 1996-98 biennial budget funding recommendation requested an annual system-wide increase of approximately 7%.

A preliminary estimate of potential "need" for 1998-2000 is a system-wide increase of approximately $100 million in state appropriations. This amount would bring postsecondary education funding up to the average funding level in benchmark/surrounding states. Since Kentucky is a low income state with a low level of educational attainment, the case can be made that a greater than average investment in postsecondary education is needed for the Commonwealth to "catch up" with competitor states as quickly as possible.

An alternative methodology may be developed to estimate the funding needs of higher education. Government appropriations per Full-Time Equivalent (FTE) may be calculated for each institution in Kentucky and compared to appropriations per FTE in benchmark/surrounding states. For example, data from the Southern Region Education Board (SREB) was used to compare institutions. SREB was created in 1948 as the nation's first interstate compact for education. SREB's 15 member states include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South

Carolina, Tennessee, Virginia and West Virginia.

A comparison of appropriations for the 1995-96 fiscal year per FTE in Kentucky with the median of appropriations per FTE for the 14 SREB states would suggest that Kentucky's higher education system is underfunded by approximately $77 million. (This assumes that appropriations will not be "taken" away from those institutions for which appropriations per FTE are currently above the median.) Again, this would provide Kentucky with funding equal to an average funding level of other states.

Kentucky's postsecondary education system, however, must be better than average. An additional $318 million in higher education funding would be needed to raise funding in Kentucky to the highest appropriation per FTE from among the 14 SREB states. Although each state is different - with different goals, priorities and problems – a reasonable estimate of increased funding needs per year in Kentucky would range from nearly a $100 million to up to $300 million.

Kentucky has made significant investments in its postsecondary education system. The Commonwealth, however, has not realized a return on that investment through the improved educational attainment of its citizens. Clearly, additional funding is not the only requirement for an improved postsecondary education system. *New funding, as well as existing resources, must be strategically invested for system improvements.*

CONCLUSION

A review of the barriers in Kentucky's postsecondary education system which prevent excellence and the new demands of the 21st century leads to the following conclusions:

- **The system lacks strategic vision and focus on future economic growth;**
- **The system lacks effective coordination of postsecondary education;**
- **The system lacks incentives for change, efficiency, and quality;**
- **The system lacks national recognition for research and graduate programs; and**
- **The system lacks coordinated focus on the use of technology required to deliver programs.**

The next chapter examines strategic goals for moving the Commonwealth beyond these barriers to excellence in postsecondary education and onto a clear path toward increased economic opportunity and productivity.

CHAPTER 4: REFORM GOALS FOR KENTUCKY'S POSTSECONDARY EDUCATION SYSTEM

INTRODUCTION

For the past two decades, elected officials and industry and education leaders have expressed concern regarding the structure, efficiency, and capability of Kentucky's postsecondary education system. The creation of the Task Force on Postsecondary Education has provided the vehicle to collect and interpret these concerns. This chapter focuses on five major goals which must be addressed if Kentucky is to raise the educational attainment of its citizens and thereby achieve a standard of living equivalent to the rest of the nation.

POSTSECONDARY EDUCATION GOALS

The five goals of postsecondary education reform are as follows:

GOAL 1

TO ENSURE THE POSTSECONDARY EDUCATION SYSTEM IN KENTUCKY IS EFFECTIVELY LINKED TO STATEWIDE PRIORITIES AND AN ECONOMIC GROWTH VISION FOR THE 21ST CENTURY.

The Council on Higher Education and other various institutions have failed to recognize the necessary linkages between postsecondary education and the long-term economic growth of the state. The business community has indicated a need for a postsecondary education system which is a full partner in the accomplishment of statewide economic goals and priorities. This goal formally recognizes this critical linkage and suggests system changes must be undertaken to ensure its accomplishment.

A major weakness in the current structure of postsecondary education is that the Council on Higher Education has no "political constituency." Some say it can never have a political constituency. It will never have an alumni network. It will never field a basketball team. It will never be an economic engine in a community. The fact is, the Council on Higher Education's political constituency should be the governor and the General Assembly. The Council should be the organization which ensures

that the higher education public policy of the people of Kentucky, as adopted by the General Assembly with the leadership of the governor, is implemented.

A review of the statutes creating the Council on Higher Education and granting it power reveals that the Council has broad legislative authority. But many contend that the Council has not executed the mission assigned to it by the General Assembly.

Kentucky's system of postsecondary education should provide citizens the educational opportunities they desire and should provide business with the workforce it needs to be productive and profitable in a competitive world economy. The system should also provide educational opportunities that are varied, economical, and accessible. It should accommodate traditional and nontraditional students. Furthermore, it should provide continuing education for workplace changes and remedial education for people who, for whatever reason, do not have the skills and education necessary to compete in the workforce. And finally, the system should train craftsmen, technicians, professionals, and provide general education linked to knowledge and skills required in the 21st century.

While citizens deserve to pursue the occupation of their choice, they need to know the relative economic opportunities which different occupations afford. Moreover, they need to understand changing demands for that occupation, not just today, but also in the future. In fact, the accelerating rate of change in the skills needed in the future economy makes the value of a general education more important and makes opportunities for continuing education for the nontraditional student imperative.

GOAL 2

TO ENSURE THE POSTSECONDARY EDUCATION SYSTEM IS EFFECTIVELY COORDINATED AND PROVIDES A SEAMLESS EDUCATIONAL PROCESS FOR THE CITIZENS OF THE COMMONWEALTH.

Coordination within a system of postsecondary education is more than approving programs and adjusting mission statements from time to time. An effective, coordinated, seamless system of postsecondary education must include all providers and involve a dynamic process for the encouragement of considered, cooperative and "market oriented" change. It should also include accountability reviews and continued reflection on the needs and priorities of current and future generations. At the same time, an effectively coordinated system must recognize and act to avoid unnecessary duplication and low productivity. It should also encourage efficiency while being alert to the need to educate the "whole" person for effective citizenship and a high quality of life. A review of current system coordination indicates a lack of ef-

fectiveness which must be addressed through postsecondary education reform.

GOAL 3

TO ENSURE A FINANCING STRUCTURE FOR THE POSTSECONDARY EDUCATION SYSTEM WHICH ENCOURAGES INNOVATION, EFFICIENCY AND SYSTEM EXCELLENCE.

Enhanced innovation, efficiency and excellence can be effectively achieved by reform of the postsecondary financing system. Bureaucratic processes designed to improve efficiency, no matter how sophisticated, are doomed to failure unless *basic* managerial and operational behavior patterns are changed. Postsecondary education needs a system of "financial motivations" to encourage the Council and the institutions to change current practices for greater efficiency and to ensure desired outcomes. The needed financial incentives should place less emphasis on student numbers, which drive duplication and competition, and place greater emphasis on innovation, quality and efficiency.

Increased funding alone will not ensure an exemplary postsecondary education system. ***New funds must be directed toward achieving strategic goals.*** For example, a new formula should include such statewide priorities as:

- **Building focused, internationally-competitive, and highly ranked research into the system;**
- **Developing regional priorities and nationally competitive applied research programs;**
- **Supporting investments in technology and other capital-related items in order to improve student learning and extend access to postsecondary education throughout the Commonwealth; and**
- **Supporting regional collaboration and integration of all postsecondary education programs, with a special emphasis on the community colleges and technical schools.**

Goal 4

TO ENSURE THE EMERGENCE OF NATIONALLY RECOGNIZED RESEARCH AND GRADUATE PROGRAMS WHICH WILL SERVE AS INCUBATORS OF ECONOMIC GROWTH.

In an increasingly complex and technology-based world, successful corporations and businesses require innovative ideas to compete. Across the nation, there are numerous examples of the strong relationship between research, ideas and industry success. Such examples include Route 128 in Boston; the Research Triangle in North Carolina; Austin, Texas; and the Silicon Valley in Northern California. For Ken-

tucky to achieve a higher standard of living, it is critical that the Commonwealth be empowered to compete for new generation businesses, corporate headquarters and product-development facilities. Fortunately, in the emerging high-tech world, the location of new generation corporate enterprises is no longer "place bound" and limited to certain regions of the United States.

Kentucky can be competitive in the new economy, but only if it has the intellectual and research infrastructure to support such an economy. The location of the Toyota manufacturing plant provides evidence that Kentucky can compete with appropriate investment in ideas, people and research. The enhancement of Kentucky's research and graduate programs will make the state competitive in the new economy and help propel Kentucky corporations and businesses to a new echelon among competitors. A first-class research university will be a magnet for economic development and should be a goal of postsecondary reform efforts.

GOAL 5

TO ENSURE THE USE OF STATE-OF-THE-ART TECHNOLOGY TO GUARANTEE MAXIMUM SYSTEM ACCESS AND DELIVERY COORDINATION FOR A SEAMLESS SYSTEM OF DELIVERY.

Current and emerging technologies provide exciting opportunities to concurrently enhance system access and foster more efficient program delivery. Historically, access in postsecondary education has been defined as an educational institution in every region of the state. Access has been considered a function of travel time and physical proximity. That perspective of access is changing dramatically due to the emergence of new "technology-based" delivery systems, such as distance learning.

The concept of access is also undergoing dramatic change in terms of who is to be provided access. Research indicates that Kentucky must prepare for a system of continuous education and re-education of the workforce. Some futurists suggest that Kentucky citizens will change jobs (and perhaps, occupations) five or more times during their careers. Such change will require "access" in new venues to accommodate citizens who are site bound because of economic and personal considerations. Given new technologies, physical and geographical access will become less important as the state attempts to meet the diverse educational needs of its citizens.

Kentucky must move quickly to adopt available and developing technologies to enhance access to postsecondary education. Fortunately, such a system change yields other significant benefits, including greater coordination of program delivery. A new wave of postsecondary education involves the "virtual university" concept whereby traditional academic courses and technical training may be elec-

tronically delivered throughout the state, the nation and the world. A new approach such as this will require the coordination of system providers in terms of content, finance and outcomes. If Kentucky citizens are to be prepared for the work world of the future, new, technology-based access to professional development and retraining programs must be provided.

CONCLUSION

Significant barriers to economic progress, including a failure to link postsecondary education to a statewide strategic vision, low educational attainment and degree production, low research and graduate education capacity and inefficient program delivery — discussed in Chapter 2 and 3 — may be overcome if the Commonwealth commits to reform of its postsecondary education system. Though postsecondary education reform will not be a guarantee in lifting Kentucky, its economy and its citizens to national economic standards, the Commonwealth will surely never reach these goals without it.

CONCLUSION: ELEVATE, ENHANCE AND ENGAGE KENTUCKY IN POSTSECONDARY EDUCATION

THE NEED FOR CHANGE

Education has emerged as the principal path to a higher standard of living and an improved quality of life in the 21st century. A 1996 report from the Kentucky Long-Term Policy Research Center, *Exploring the Frontier of the Future,* notes that "... the ability of states and nations to cultivate an appetite and an appreciation for knowledge will be key to their prosperity."

For many Kentuckians, however, the path to higher education and improved prosperity is inaccessible because of educational, organizational, financial or geographical barriers. Although Kentucky has made considerable progress in recent years to address these issues, disturbing trends continue:

- **Nearly 44% of the population lacks the knowledge and skills to fully participate in the Commonwealth's economy;**
- **Kentucky's proportion of the poplution with less than a high school degree is greater than all competitor states except Mississippi; and,**
- **Kentucky still ranks 48th in the nation in the percent of its population with a bachelor's degree and only 27% of its community college graduates proceed to four-year degree programs.**

Why has the postsecondary education system failed to produce better outcomes for Kentucky and its citizens? As this report indicates, it is not through a lack of investment, but rather a lack of ***strategic investment.*** Kentucky certainly has a large quantity of postsecondary resources, but these resources are not well matched with the needs of the Commonwealth's citizens or its economy. Kentucky also has invested considerable funds in its postsecondary education system, but the potential need is estimated to be from nearly $100 million to up to $300 million.

Can Kentucky meet this need in an era of shrinking available resources? Today, resources available for the postsecondary education system are spread among an array of institutions with singular missions. No coordinated vision exists to drive postsecondary education as a critical economic engine. Future investments must be strategically made so that Kentucky can reap the benefits of a well-educated and well-prepared citizenry.

Inefficiencies in the current system have a direct relationship to the lack of leadership in the postsecondary education system. Today, no authority exists to coordinate all of the postsecondary education resources in the Commonwealth. Kentucky's postsecondary education system is not positioned to respond to the needs of the economy and its regions. The system is inefficient and unresponsive. In many cases, the system is not accessible and there remain many serious questions about quality.

Kentucky must make a quantum leap in the postsecondary knowledge and skills of its population and the competitiveness of its graduate education and research programs. If it does not, the Commonwealth will make little progress in improving the quality of life and standard of living for its citizens and will instead fall further behind its competitor states and the entire nation.

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- Kentucky Higher Education Institutions Degree Completion Data, Analysis of Program Performance

IV. Chapter 2 - Charts (Continued)

- Cabinet for Workforce Development, Department of Technical Education, Kentucky TECH Postsecondary Placement Rates of Graduates by School Year
- Federal R&D Expenditures Per Capita, 1994
- State & Local R&D Expenditures Per Capita, 1994
- Industry R&D Expenditures Per Capita, 1994
- Institutional R&D Expenditures per Capita, 1994
- Other R&D Expenditures Per Capita, 1994
- Science and Engineering Profile

V. Chapter 3

- A Layman's Introduction to the Kentucky Higher Education Funding Formula
- Southern Regional Education Board
- Charts

  - 1995-96 SREB Data Exchange; State and Local General Operating Appropriations Per Full-Time Equivalent (FTE) Student - Median Funding Level
  - 1995-96 SREB Data Exchange; State and Local General Operating Appropriations Per Full-Time Equivalent (FTE) Student - Highest Funding Level

APPENDIX I

D. FRED LANDRUM
DEAN OF BUSINESS AFFAIRS
HAZARD COMMUNITY COLLEGE

- The current model of postsecondary education in Kentucky has been successful within the constraints of funding in providing citizens with the knowledge and skills to enable them to support themselves and to make a positive contribution to society.

- Make change with care to ensure that a reasonably sound system is not harmed.

- Look for new ways to improve to respond to rapid changes in technology and the possibility of additional financial resources.

- Utilize new technology to increase accessibility, maintain quality and improve cost effectiveness.

- Develop a new university — a "virtual university" to encourage creativity and cooperation among institutions and address barriers faced by students, such as:

  - Difficulty of non-traditional students relocating to a university for course work.
  - Transfer barriers and lack of coordination of similar programs at different institutions.

- Use the virtual university to overcome "turf" protection than can delay or totally inhibit change.

- Develop the virtual university as a "no frills" entity by:

  - Including curricula similar to all the degree and certificate programs already offered by Kentucky institutions.

  - Reviewing existing curricula and streamline them to include only courses necessary to achieve desired outcomes.

  - Providing students with an opportunity to pursue their objectives through correspondence courses, telecourses, Internet courses, compressed video classes offered by the virtual university or some other statewide delivery system.

  - Make use of any method of delivery that enhances accessibility, reduces cost and maintains quality.

APPENDIX I

GENERAL ASSEMBLY
COMMONWEALTH OF KENTUCKY

REGULAR SESSION 1996

SENATE CONCURRENT RESOLUTION NO. 93

TUESDAY, MARCH 5, 1996

The following concurrent resolution was reported to the House from the Senate and ordered to be printed.

A CONCURRENT RESOLUTION creating a Task Force on Postsecondary Education.

WHEREAS, the Long-Term Policy Research Center report, "The Context of Change," found that "A high quality, fully integrated, 'seamless' system of education and training is almost universally regarded as the most potent antidote to poverty and low incomes and perhaps the only one that offers a long-term remedy"; and

WHEREAS, it is imperative that the Commonwealth provide a system of postsecondary education that promotes retention and graduation; that provides students access to the courses of study necessary to complete their education in a timely manner; that enables students to have the flexibility to transfer course credit from different institutions based on comparable content, knowledge, and skills; and that fully prepares students with the knowledge and skills to be successful in their chosen fields; and

WHEREAS, it is necessary that the Commonwealth use its limited resources wisely and balance the need for student access to postsecondary education opportunities with the need to avoid unnecessary duplication; and

WHEREAS, it remains necessary that the Commonwealth allocate its resources to institutions in ways that promote instructional quality; and efforts to implement a meaningful system of performance funding have been ineffective, and efforts to improve the formula for funding higher education have not resulted in meaningful change; and

WHEREAS, the "Workforce Training Report," a Legislative Research Commission study of workforce training programs, found that the "organizational structure of Kentucky's postsecondary systems adds to the competitive practices and similarities in programming," that there is limited coordination among all postsecondary educational programming, and that there are resulting problems in duplication and the transfer of course credit; and

WHEREAS, the Legislature's Task Force for a Comprehensive Study of Higher Education recommended that a study of the feasibility of combining the functions, roles,

and structures of vocational-technical education and community colleges, as well as their interface with four-year universities, be conducted;

NOW, THEREFORE,

Be it resolved by the Senate of the General Assembly of the Commonwealth of Kentucky, the House of Representatives concurring therein:

Section 1. (1) There is hereby established a Task Force on Postsecondary Education to develop recommendations and an implementation plan for a system of postsecondary education in Kentucky that promotes quality instruction designed to provide students with the knowledge and skills necessary to be competitive in a global economy. Its membership shall include:

(a) Six (6) members appointed by the President of the Senate;

(b) Six (6) members appointed by the Speaker of the House of Representatives; and

(c) Six (6) members appointed by the Governor.

The co-chairs shall be named by the Legislative Research Commission.

(2) The Task Force shall review the Council on Higher Education's Strategic Plan for Kentucky Higher Education 1996-2000; the findings and recommendations from recent studies of higher education; the current status of efforts relating to the creation of a system of common course numbering; agreements to facilitate student transfer of credits; the equity and adequacy of the funding formula; performance funding; and the governance of higher education, community colleges, and vocational-technical education. The Task Force shall determine whether the current efforts will enable more Kentuckians to successfully complete postsecondary education and be prepared for the future.

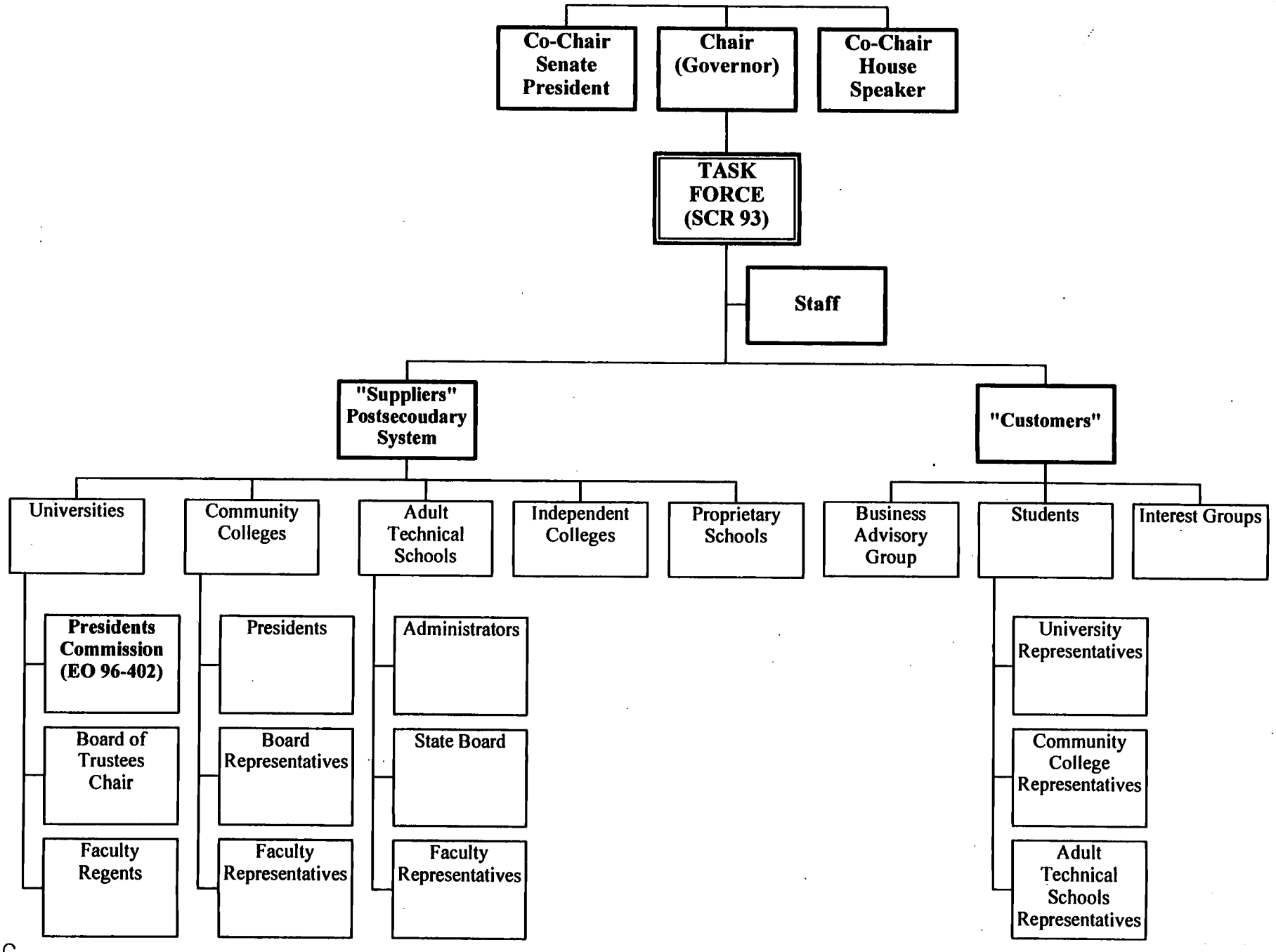
(3) The Task Force shall be authorized to contract for consultant services.

Section 2. The Task Force shall report its findings and recommendations, including an implementation plan and timeline, with enabling legislation to the Governor and the Legislative Research Commission no later than September 1, 1997.

Section 3. Staff services to be utilized in completing this study are estimated to cost $30,000. These staff services shall be provided from the regular Commission budget and are subject to the limitations and other research responsibilities of the Commission.

APPENDIX II

Postsecondary Education Task Force Advisory Group - Chart



COMMISSION ON HIGHER EDUCATION
INSTITUTIONAL EFFICIENCY AND COOPERATION

Executive Summary of the Final Report

The recommendations in this report offer a blueprint for accomplishing these tasks so that customers who hire Kentucky graduates are ensured of quality, and students who benefit from the educational services have the knowledge base and competencies they need. In this way, the Commission's recommendations will contribute to an enhanced standard of living for Kentuckians in the future.

Summary of Recommendations

The Commission recommends:

Coordinating Program Delivery

- The creation of a Commonwealth University.
- The creation of a Kentucky Electronic Library system.
- The establishment of incentives to encourage institutions to develop strong cooperative academic programs and to identify the most efficient distribution of academic degree programs.
- The provision of health services by appropriate institutions to the state's prison population through telemedicine.
- A review and rethinking of the program review and approval process.

Expanding Opportunities

- Further development of the Kentucky Information Highway and its use to meet the needs of higher education and other areas of state government.
- The establishment of a Kentucky Technology Initiative 2000 for support of instructional technology.
- The establishment of a network of technology academies for the improvement of academic skills in teaching and research.

Building Excellence

- The creation of a Commonwealth Trust Fund for Excellence to reward and recognize university initiatives which promote quality and excellence in the institutions.
- The creation of a scholarship pool to retain excellent academic students in Kentucky.
- The establishment of an Information Technology and Development Fund to provide institutions with the ability to build and test prototype solutions to common problems which require research, innovation, or emerging information technologies that could result in improved academic and administrative service delivery.
- Necessary changes be made in the funding model to reflect the recommendations of the Commission and the Task Force on Postsecondary Education.

Enhancing Management

- An efficiency survey of administrative functions be conducted by all institutions.
- The identification of areas of service to students by each institution which it intends to improve through more efficient administration.
- The identification of areas of administrative and academic activities by each institution which could be improved through inter-institutional cooperation.

FOCUS GROUPS

EXECUTIVE SUMMARY

The 1996 Session of the Kentucky General Assembly established a Task Force on Postsecondary Education to develop recommendations and an implementation plan for a system of postsecondary education in Kentucky that promotes quality instruction designed to provide students with the knowledge and skills necessary to compete in a global economy.

To assist in this process, the Kentucky Legislative Research Commission retained Horizon Research International to convene a series of focus groups among various stakeholder segments across Kentucky's six Congressional Districts.

In all, 184 stakeholders participated in the focus groups. They represented a cross-section of institutions, industry segments, and demographic backgrounds from the various rural and urban areas of the Commonwealth.

The themes that emerged from this qualitative research were generally similar across regions and stakeholder segments. The following narrative provides an overview of the salient findings.

Skills Needed in the Future

These stakeholders felt that a person would require several specific skills or characteristics to lead a productive, high-quality life in the next century in a way that would contribute to the economic vitality of their own lives as well as that of Kentucky and the global economy. Those skills or characteristics included the following:

- Communication skills - The ability to communicate one's thoughts and opinions to others. This could be oral communication, written communication, interpersonal skills, and presentation skills.

- Computer skills - Computer literacy in a variety of software applications and familiarity with a range of computer systems.

- Flexibility/Adaptability - The ability to adjust to an ever-changing workplace. This was perceived as vital due to changes in technology and corporate downsizing trends.

- Global awareness - The recognition of foreign competition and opportunities. Global awareness skills included foreign language skills, familiarity with and tolerance of foreign cultures, and knowledge of current events.

- Critical thinking/Problem solving - The ability to think on one's feet in the event of a problem or crisis. A person must be able to think through a problem and come to a logical, effective solution.

- Lifelong learning - The realization that learning does not end with formal education. Changes in the workplace and technological advances will necessitate the ability and willingness to learn continually throughout one's life.

- Diversity skills - The ability to accept new and different ideas and people. This type of ethnic and cultural diversity can be applied to one's hometown and country as well as overseas.

- Teamwork skills - The ability to work with others in pursuit of a common goal. Teamwork skills included communication and interaction skills, the acceptance of new ideas, and leadership skills.

- Math skills - These skills were seen as necessary both for their usage in everyday personal and business lives and their inherent relation to logic and problem-solving skills.

The perceived necessity of communication skills and computer skills was consistent across all focus groups and always at the top of the list. The other characteristics were mentioned in most groups, but received varying degrees of emphasis dependent upon the particular stakeholder segment. By and large, Faculty, Board Members, and Business and Opinion Leaders were the most adamant about the full array of skills needed for the next century.

Success of Postsecondary Education

These stakeholders felt that the best ways to judge the success of postsecondary education were job-related standards. They cited the following:

- Job placement of graduates

- Job performance and advancement of graduates

- Job retention of graduates

Dialogue with businesses and surveys among graduates and business leaders would provide that yardstick of success, many said.

Role of Postsecondary Education

The perceived role of postsecondary education was simple: to prepare students for life in the "real world" with a solid foundation in the basics and a student's chosen discipline, they said.

- The main aspect of this was to prepare students to contribute to the workforce and the economic vitality of the Commonwealth of Kentucky with all the skills they defined for success.

- Additionally, postsecondary education was seen as a means by which students were taught how to learn continually throughout their lives and a way to expose them to ideas and opportunities with which they might not otherwise come into contact.

In short, the role of postsecondary education was to provide a strong foundation from which students would meet the demands of life and continue to grow in the ever-changing world, they said.

The Ideal Postsecondary Education System

During the discussion period, the respondents were broken into teams of three or four and asked to develop the ideal postsecondary education system or institution to provide the highest quality education that will effectively prepare students for the next century. They were to assume that Governor Patton and the legislative body had appointed them to develop this ideal system or institution, and that they had and "open checkbook" with which to work. The purpose was to uncover the perceptual dimensions that constitute a high-quality postsecondary education system. Here is the story that emerged.

a. Governance

These faculty, Board Members, and Business and Opinion Leaders felt that the ideal postsecondary education system would be overseen by a central coordinating board, possibly impaneled by representatives of each of the Kentucky postsecondary institutions, but the individual institutions would remain autonomous.*

- The schools would work together to alleviate such problems as nonarticulation of courses, duplication of services, and "turf wars."

- Technology such as distance learning would be employed to compensate for programs not offered in specific regions.

These stakeholders, particularly the business people, also felt that industry and business should be involved in the governance of postsecondary education as they receive the "products" of higher education – the graduates.

b. Critical Skills and Courses

The critical skills and courses to be taught in the ideal postsecondary education system mirrored those skills and characteristics that a person would need in the future to lead a productive, high-quality life.

- Again, communication skills and computer skills topped the list.

- Global awareness topics like foreign language classes and foreign culture classes were also popular, as were math and other analytic subjects due to their inherent relation to critical thinking and problem solving.

- Many stakeholders, particularly the Faculty, Board Members and Business Leaders, also stressed the importance of liberal arts or humanities courses to produce a well-rounded graduate.

Stakeholders felt that postsecondary institutions should continue to offer a multitude of academic programs, particularly those in medicine, law, communications, and liberal arts. The services to be stressed in the ideal system or institution included financial aid, internships, a strong advising and counseling service, and the use of technology in the classroom.

c. Quality Faculty

The ideal institution would be composed of an ideal faculty. These instructors would be knowledgeable, caring, effective communicators, and have a strong desire to teach. These traits were consistently mentioned by all stakeholder segments.

d. Support Services

The ideal postsecondary system of institution would have many support services. Those mentioned by respondents were the following:

- Computer labs with modern computers and up-to-date computer software that was in good working condition.

- Libraries with numerous, current resources and access to resources of other libraries via technology.

These schools should also have access to modern hardware like audiovisual equipment and, particularly in the technical schools, diagnostic equipment.

e. Administration Staff

The administration staff should be courteous, helpful, and flexible, the stakeholders felt. In an effort to reduce bureaucracy in the ideal postsecondary education system, the administrative staff was often described as "lean and mean." Stakeholders, particularly Faculty, felt the need for administrators to have backgrounds as educators.

f. Credit Transfers

All stakeholders concurred that, in their ideal postsecondary system, credit would be given for all classes taken, provided a respectable grade was earned. Course consistency at the various institutions would be emphasized, especially for core curriculum courses such as introductory English, math and history classes. Respondents acknowledged that this may not be possible in every situation, but efforts would be made to reduce the number of students who lose large amounts of credit hours because of transferring schools.

In summary, stakeholders said the ideal postsecondary education system would be one that teaches students all the skills deemed critical to lead productive, high-quality lives in the next century. The faculty would be knowledgeable, caring, and effective communicators, and the students and faculty alike would have many modern facilities and support services at their disposal. Stakeholders also felt there should be a more effective system in place for the transfer of credits between institutions. A central, governing body would be used to coordinate this system, as well as other services and offerings.

Strengths and Weaknesses of the Current Postsecondary Education System

As a summary of the discussion period, the stakeholders were asked to share what they perceived were the strengths and weaknesses of the current postsecondary education system in terms of preparing students for a productive, high-quality life and meeting the needs of employment in the next century.

a. Strengths

Among the many aspects of the current system or institution that respondents listed as strengths, the quality of the faculty and the availability of postsecondary education throughout the Commonwealth topped the list. Respondents felt that many instructors at the various institutions throughout Kentucky generally embodied those characteristics of an excellent faculty discussed previously. They also praised the system for providing access to higher education to many different types of people in many different locations throughout the Commonwealth. Other perceived areas of strength included the following:

- Use of technology - Effective use of technological equipment like computers, diagnostic equipment, and audiovisual equipment as aids to educational instruction.

- Diversity of opportunities - Institutions were praised for providing students with a variety of subject areas to explore and learning opportunities like internships foreign travel, and research projects.

- Technical education - The vocational and technical schools were perceived as both meting a need and providing the workforce with quality, well-prepared graduates. Their use of applied knowledge and hands-on classrooms was praised.

- Well-rounded education - The postsecondary education system was perceived as providing an inclusive, well-rounded core education that allowed graduates to enjoy a high quality of life and bring other skills and knowledge to the workplace.

The current postsecondary education system was perceived as providing access to higher education to a variety of people across the Commonwealth. The quality of the faculty was praised, as were the accomplishments of the technical schools.

b. Weaknesses and Shortcomings

Funding was the most frequently mentioned shortcoming or weakness of the current postsecondary education system or institution. Many respondents felt that adequate funding would eliminate or alleviate many of the other weaknesses. Other areas in need of improvement included the following:

- Politics - A general term for bureaucracy and competition among institutions epitomized by the following:
  - "Turf wars" - The competition for students, funding, and degree programs on a regional basis.
  - Nonarticulation of courses - Mandated consistency of similar courses among individual institutions within the system. This nonarticulation of courses complicated credit transfers within the system.
  - Duplication of services - Statewide competition for students, funding, and recognition by offering exact or similar services, particularly specialized degree programs, at more than one institution within the system. This duplication was once necessary, but technology has eliminated the need for regional offerings.
- Use of technology - Effective use of technological equipment like computers, diagnostic equipment, and audiovisual equipment as aids to educational instruction was a weakness.
- Meeting industry needs - The lack of preparedness among graduates to meet the needs beyond the basics of a discipline including those skills deemed critical to a person's success and productivity and knowledge in his or her chosen discipline. This weakness also refers to education's inability to provide qualified graduates for fields where there is and will be a demand.
- Class sizes - Large, lecture-type classes were not perceived as conducive to the learning process. They deny the student the individualized attention that they so often need.

Interestingly, the use of technology was mentioned as a particular strength of today's postsecondary education system by some respondents while other felt that it was a weakness. This dichotomy tends to be function of regions and institutions. Technical schools and community colleges, especially those in Southeastern Kentucky, perceived that they did not have adequate access to modern equipment like teaching aids and computers. They also felt that classroom facilities were poor, citing old, uncomfortable classroom furniture and run-down buildings.

Conclusion

These stakeholders felt strongly that there were specific skills and characteristics that a person would need to lead a productive, high-quality life in the next century. Communication and computer skills were chief among these. They saw the role of postsecondary education as equipping students with these skills and enabling them to continue to learn and add to these skills throughout their lives to become productive members of the community.

This could be done through a mix of effective, knowledgeable instructors and a variety of current, up-to-date programs, services, and facilities. Modern computer facilities were seen as vital to this process. The quality of the faculty and the availability of higher education throughout the Commonwealth were seen as the strengths of the current system. Inadequate funding and unreasonable political issues were seen as weaknesses or shortcomings. Many stakeholders felt that proper funding would eliminate or alleviate many of the other weaknesses, but the effect of the profusion of politics would have to be solved by the administrators and legislators who were perceived as the ultimate cause.

Additionally, the preparedness of students entering the postsecondary education system was cited as a weakness, particularly by the Faculty groups. If students were to maximize their postsecondary education learning potential, they needed to be adequately prepared in primary and secondary education. These respondents felt that issues need to be addressed on this level before major strides can be made in higher education.

*Governance was not asked to Students and Citizenry for consideration in their "ideal" description of postsecondary education.

BOARDS AND COUNCILS

This report reflects the view of 58 individuals who serve on university governing boards, University of Kentucky community college boards, the State Board of Education, and the Council on Higher Education. The report was developed and refined by a 14-member steering committee drawn from the larger group. The group identified the following basic issues:

I. Improving services to students

II. Promoting improved cooperation among institutions

III. Improving quality

IV. Being more responsive to the needs of business and industry

V. Emphasizing the inclusion of the latest technologies

VI. Supporting and training faculty

VII. Providing adequate funding

More detailed observations are as follows:

Students are the Highest Priority

I. Students and their needs should be at the center of postsecondary education.

   A. Begin the student-centered orientation before students reach the campus.

   B. Emphasize connections between adequate high school preparation and postsecondary education success

   C. Give students ample time to explore career choices through programs like school-to-work.

   D. Encourage students to move on to some form of postsecondary education in order to be well-rounded citizens and prepared to be successfully employed throughout their lifetimes.

II. Attention must be given to the non-traditional student or adult learner.

   A. Even though these students may not seek a degree, they often seek to improve or elevate their skills for employment or personal reasons.

B. Adult students' deficits in reading, writing, and mathematics must be addressed to ensure that they can be employed – and retain employment – in the Commonwealth's changing economy.

III. Expand student access to postsecondary education

A. Make affordable postsecondary education accessible through a combination of on-campus and extended campus programs using emerging technologies and new methods of delivery. New approaches are needed to serve place-bound students.

B. Shifting responsibilities for welfare will require new approaches to education delivery and job placement.

Quality and Relevant Academic Offerings

I. Quality and relevance of academic offerings is of utmost importance.

A. More guidance counselors as needed in high schools and non-traditional students need similar support.

B. Students unprepared for postsecondary education should be remediated immediately upon enrolling.

C. Remediation must be easily available throughout the Commonwealth.

D. Community colleges should take the lead in making remediation available – either on-site or through off-campus or extended campus services.

E. Students prepared for postsecondary education should be advised effectively regarding the programs that offer employment potential. Students should understand the need for retraining over one's lifetime.

F. Academic programs to prepare students for the workforce should include skill development, math, and science, as well as a liberal arts education.

G. Quality should be assured at all levels and locations and all modes of delivery: on-campus, extended campus, and distance learning.

II. A system of cooperation must be developed between community colleges and Kentucky TECH. Students should be able to enroll in academic courses at the community colleges and technical courses at Kentucky TECH – leading to an associate degree if appropriate.

III. The liberal arts, as well as education for employment and economic development, should be encouraged for:

A. Preparation for graduate and professional education.

B. As critical for preparation of a literate population and improved quality of life.

C. Preparation of student to be part of a global marketplace.

Emphasize Business/Postsecondary Interdependence

I. Business must recognize critical role of postsecondary education in meeting the Commonwealth's needs and become directly involved.

II. Place more emphasis on strengthening the business community – postsecondary education relationships.

III. A responsive postsecondary education system is one that ensures that the needed programs and courses are available when and where they are needed. It is the business community'' responsibility to make these needs known.

Faculty Development is Critical

I. Give faculty opportunities and training to adapt teaching and learning strategies to new technologies and to prepare to meet new challenges.

II. Impress upon faculty that they must change and accept new technological developments.

Review Facility Needs and Provide Access to New Technologies

I. Place priority on meeting postsecondary technology needs.

II. Approach capital construction needs differently.

A. Inventory capital construction needs and set priorities among possible projects; new projects should be curtailed until technology needs are met.

B. Assess the need for new facilities in light of the growing potential of technology-based teaching and learning.

C. Facilities that are renovated or newly constructed should include changes and equipment necessary for access to and use of technology.

Improved Cooperation and Coordination Are Necessary

I. Attitudes of isolation such as, "This is my institution and I will operate it as I see fit," are unacceptable.

   A. Issues of turf protection must be eliminated.

   B. All institutions must accept the fact that they are parts of a statewide postsecondary education network for the good of the Commonwealth as a whole.

II. Increase cooperation and eliminate unnecessary duplication between community colleges and Kentucky TECH.

III. Review the number of professional schools and curb unnecessary duplication of programs and course offerings where possible.

IV. Respect regional service areas of each university.

V. Review the systems of coordination and governance:

   A. Review the Council on Higher Education, Board of Adult and Technical Education, the Workforce Development Cabinet.

   B. Reform coordination of postsecondary education to encompass all sectors, including community colleges, proprietary schools, private and public universities and colleges, regional technical schools, and area vocational schools that offer adult education courses.

Increase Funding for an Improved Postsecondary Education System

I. Underwrite a system-wide commitment to make improvements with increased funding.

II. Provide funding increases in ways to promote achievement of improvements.

III. Give special funding attention to:

   A. Improving the technological condition of postsecondary education.

   B. Enhancing the faculty's ability to utilize technology in the teaching and learning process.

IV. Explore reduced spending, such as expenditure of state funds for athletics.

V. Tie future institutional funding increases to an institution's performance in meeting the goals set in its mission statement.

Defining the Mission

I. Every institution cannot be all things to all people. Each institution must define its mission and set its own goals.

II. Recognize the need for postgraduate education and research. Direct attention to making the land-grant university a first-class research university.

III. Emphasize literacy and technology in the mission of the vocational-technical schools.

IV. Identify strengths at each institution to develop and promote as its own area of excellence.

V. Emphasize remediation in the community college mission, as well as preparing students to enter the workplace or transfer into a four-year curriculum.

PRESIDENTS OF THE UK COMMUNITY COLLEGE SYSTEM

Expectation: that the Commonwealth is on the threshold of a dramatic change in postsecondary education, and that community colleges, as the leading partners in the preparation of the job-ready workforce and the primary providers both of education access and lifelong learning opportunities for all Kentuckians, will be the vital center of the change process.

The dilemma for the Community College System is determining how to provide access to higher education to more Kentuckians and how to empower more people through education and training. The system finds itself plagued by:

- policy restrictions which hamper student access and obstruct the on-time/on-target delivery of workforce education.
- turf struggles which tend to undercut out best collaborative efforts.
- chronic underfunding.
- a funding formula which fails to recognize key elements of the community college enterprise, especially in the areas of workforce education and community development.

To address these issues, we have identified a number of functional changes that are absolutely imperative if postsecondary education in general and community colleges in particular are to be transformed into a more responsive and effective system.

Focus: Access for Educational Attainment

- Make access to postsecondary education a priority in Kentucky, and fund two additional years of education for all high school graduates beginning in the year 2000.

- Move the Kentucky Adult Education Program to the Community College System and provide incentives for adults to move from workplace literacy programs and GED completion to earning an associate degree.

- Allocate technology funds through special appropriations outside the formula until the technological infrastructure is adequate, including ample professional development for faculty and staff.

- Create a *virtual community college* which broadens access to flexible, timely, accessible and relevant programs.

- Require the universities and community colleges in the same regions to develop and offer 2 + 2 programs needed by business and industry, using a seamless admissions/transfer policy.

- Include "collaborative efforts among postsecondary institutions" as a piece of the funding formula, and involve all postsecondary institutions in the *performance funding concept* — senior institutions, community colleges, and postsecondary vocational-technical schools.

- Clarify the missions for all postsecondary educational institutions, and then adequately fund all parts of their missions, including continuing education for workforce development.

- Fund the Community College System at the Southern Regional Education Board states' median level of funding per full-time equivalent student.

- Add a Community College System (CCS) alumnus/alumna to the Council on Higher Education and include the CCS Chancellor as a member of the Council of Presidents.

- Affirm the UK Community College System's governance structure. Recurring attacks on this structure simply drains resources, including time and energy, that are needed to address the Commonwealth's critical access issues. Furthermore, the University System/Community College System relationship promotes the integration of research and teaching and the application of knowledge and information to the solution of real-life problems. An example is Lean Manufacturing. This manufacturing system simulation, developed jointly by the UK Center for Robotics and Manufacturing Systems and the Toyota plant of Georgetown, is offered to business and industry by the community colleges.

Focus: Education and Training for the World of Work

- Identify the community colleges as the State's leading partners that work with the vocational/technical schools and state and local workforce development boards and agencies to provide centers for workforce education and training; and evaluate outcomes by regions. Use the Alliance for Business/Industry Services model at Jefferson Community College, which include the community college and Kentucky TECH/Jefferson Campus, and others.

- Allow the secondary and postsecondary education agencies of the state, including representatives of community colleges and vocational/technical schools, to jointly develop the education portion of block grants.

- Appoint community college and vocational/technical school representatives to all state and local-level workforce development boards and collaborative bodies.

- Identify lead community colleges as regional sector laboratories (extension agencies) for the transfer and practical application of technology from the university research laboratories to the workplace.

- Permit all 14 community colleges to offer the Technical Studies 1 + 1 program in collaboration with Kentucky TECH postsecondary institutions based on Council on Higher Education approval of one system-wide proposal.

- Provide "career ladder" seamless educational experiences as needed by business and industry at the 14 community colleges. Students could enter and exit with ease, as needed, adult basic skills offerings, GED preparation-testing, workplace proficiency testing, certificate and diploma programs, associate degree in applied science technical programs, and upper division college courses that senior institutions offer on community college campuses.

- Accelerate the functional blending of Kentucky TECH postsecondary schools and community colleges through regional coordination efforts, using Southeast Tech as a model. Southeast Tech in Middlesboro houses two institutions — the Bell County Campus of Southeast Community College in the UK Community College System, and Bell County Area Vocational Education Center in the Kentucky TECH System. Southeast Tech is an umbrella concept under which two separate systems operate for the benefit of students and workforce development.

- Provide tax incentives for businesses and industries that work in collaboration with postsecondary institutions for workforce education, training and retraining, including faculty/industrial exchange opportunities.

- Identify and address Council on Higher Education policies that restrict postsecondary educational institutions' responsiveness to their customers — students, industry, and government. Examples include restrictions on offering dual credit courses, restrictions on service areas in rural Kentucky, the 50% rule that limits technical course offerings by the community colleges, and the restrictive program-approval process versus a fast-track responsive process that can address job market challenges.

- Establish business and industry technical assistance centers at all of the community colleges. Three of the community colleges have business and industry technical assistance centers; eleven additional centers are needed.

Barriers and Incentives

Barriers to the Suggested Functional Changes

- Inadequate technology infrastructure.
- Restrictive Council on Higher Education policies.

- Inadequate and inequitable funding for postsecondary education institutions.
- Two different coordinating agencies serving postsecondary education institutions — the Council on Higher Education and the State Board for Adult and Technical Education.
- All postsecondary education institutions are not included in the accountability process created by the General Assembly.
- Requirement that continuing education (CEU credit) workforce training offerings must be "self-supporting", with very limited state appropriations.
- Insufficient investments in education and training.
- Too few business and industry technical assistance centers at the community colleges.
- Confusion on the part of business and industry as to where to go for what training and education.

Incentives for Making the Suggested Functional Changes

The incentives for making the suggested changes fall into two categories — positive outcomes for the Commonwealth and rewards for postsecondary institutions.

Positive Outcomes for the Commonwealth

- Improved quality of life for Kentuckians.
- An educated population, including re-educated older adult workers, that will promote economic growth, job creation, rising income, and prosperity.
- Elimination of employment discrimination through the education and training of the under-educated, jobless and poor.
- Successful transition from welfare to "workfare" to *employment.*
- An improved competitiveness for Kentucky for new and expanding industry.

Rewards for Postsecondary Institutions

- Annual recognition for the achievements and accomplishments in postsecondary education.
- An accountability and funding system that is in total alignment with each of the critical elements of the Community College System mission, including *access for educational attainment and education and training for the world of work.*

KENTUCKY TECH

Technical Education Steering Committee

Vision for Postsecondary Education

- A system that is affordable and accessible to as many Kentucky citizens as possible.
- A system planned and coordinated tom ensure efficient use of all education resources.
- Local institutions empowered to be responsive to the community.
- Postsecondary institutions focused on satisfying customer needs with a willingness to challenge institutional barriers.
- A governance structure appropriate to its mission.
- Equity in funding that places equal value on all levels of postsecondary education.
- Accountability measures for all postsecondary education.

Recommendations in seven areas:

1. Accessibility and Affordability

Barrier: Secondary education dropout rate is too high.
Solution: Promote integration of academic and technical components to create relevant, real-life experiences, such as Tech Prep and School-to-Work models.

Barrier: Lack of career/technical emphasis in high school.
Solution: Emphasize career planning/technical education in high school.

Barrier: Too few adults seeking postsecondary education.
Solution: Provide tax incentives to employers who retrain their workforce.

Barrier: More students seek admission in some programs than the system can accommodate.
Solution: Prioritize resources tom expand postsecondary education at the 25 postsecondary schools and at area technology centers.

Barrier: Articulation among postsecondary education systems in sporadic.
Solution: Consider legislation to direct articulation among institutions.

Barrier: Family and life responsibilities prevent adults from returning to or attending school.
Solution: Offer more evening and weekend classes to accommodate non-traditional students. Make day care available at or near Kentucky TECH schools.

2. Planning and Coordination

Barrier: No single entity is responsible for program approval and coordination.
Solution: Create a board to approve and coordinate programs that are two years or less in length and are technical/vocational in nature. The board should have the authority to require and enforce articulation agreements. The board should also oversee such issues as joint enrollment of students between institutions; calendar issues including the beginning and ending of semesters; course numbering; and national skill standards. Coordination among technical/vocational/occupational programs could also be improved if all occupational programs were placed under the administrative control of the Cabinet for Workforce Development, or if the Cabinet distributed funding for all occupational programs.

Barrier: Missions of institutions and systems overlap.
Solution: The General Assembly should establish clear missions for universities, technical schools, and community colleges.

Barrier: Little incentive exists to establish joint programs between institutions.
Solution Create flexibility and establish financial incentives to encourage joint programs and other partnerships involving educational institutions.

3. Responsiveness

Barrier: System needs state-of-the-art equipment to update programs; obsolete and worn-out equipment needs to be replaced; new programs need to be created and equipped in existing facilities.
Solution: Prioritize biennial allocations to upgrade equipment and to equip new programs in existing facilities.

Barrier: Lack of postsecondary education in remote areas of Kentucky.
Solution: Include technical education in any plan to telecommunicate course offerings throughout the Commonwealth.

4. Satisfying Customers

Barrier: Inability of technical education to confer technical degrees
Solution: Legislation should grant authority to technical schools to confer technical degrees in appropriate programs that meet prescribed guidelines. Without technical degrees, students are at a disadvantage in the job market.

Barrier: Lack of local flexibility to respond to the needs of employers.
Solution: Establish local planning partnerships — councils of business people — to ensure that education and training programs prepare workers for fields that are in demand.

Barrier: Lack of information on what types of workers are in demand.
Solution: Establish coordination among agencies that collect and provide such data.

5. Governance

Barrier: As a state government agency, Kentucky Tech is bound by a state government personnel cap. Other educational institutions are not restricted by a cap and can hire employees as long as the positions can be funded.

Solution: Establish the State Board of Technical Education as the governing board for the Kentucky Tech system. Maintain the system connection to the Cabinet for Workforce Development for purposes of support and coordination. The Cabinet now provides legal counsel, budget and communications support and other services for Kentucky Tech and should continue to do so to use tax. dollars efficiency. To allow Kentucky Tech to function as an education institution, the Commissioner of Technical Education should report to the current State Board for Adult and Technical Education which should assume operational control of the system. The Secretary of the Cabinet for Workforce Development should serve as chairman of that board which should be renamed the "State Board for Technical Education." Without maintaining a firm connection to the Cabinet and its Secretary, technical education would lose a strong advocate who can state its case to the Governor and the General Assembly. Under this proposal, the operating board would focus solely on technical education and would have no responsibility for adult education.

6. Financing

Barrier: There is no budgeting or reporting of all of the state funds devoted to postsecondary vocational-technical education.

Solution: Initiate a state budgeting process that reports public expenditures for postsecondary vocational technical education, and budget for these expenditures separately.

Barrier: The state budget for Kentucky Tech is analyzed and approved differently from the rest of public postsecondary education.

Solution: Treat the Kentucky Tech postsecondary budget in a similar manner to the rest of public postsecondary education. State funding should be based on the value of postsecondary vocational-education within the broader context of the state General Fund's situation. Less attention should be given to the number of employees (none is given in determining funding for higher education or elementary and secondary education) and more given to the outcomes and outputs generated by Kentucky Tech.

Barrier: Currently, there is no financial incentive system within Kentucky Tech. The funding system does not provide an environment to plan, execute, and evaluate an

institution's performance. It does not encourage each institution to strive for continuous improvement.

Solution: Incorporate elements of performance budgeting as a way to inject an incentive system into the allocation of resources among Kentucky Tech postsecondary institutions.

Barrier: Historically, budgeting for facilities" construction, renovation, and equipment for new programs in existing facilities has received low priority.

Solution: Increase priorities to expand programs to meet customer needs, construct facilities according to a capital construction priority list; renovate facilities; and purchase state-of-the-art equipment according to a planned schedule of justified replacement.

7. Accountability

Barrier: Traditionally, the structure for technical education has been hierarchical.

Solution: Institute high-performance organization concepts and initiatives, promoting the development of teams and the empowerment of front-line employees to make decisions and act on them. Change should be both top-down and bottom-up.

Barrier: Current financing structures do not address accountability or assessment measures adequately.

Solution: Implement performance funding measures based on local assessment inputs.

Barrier: The public has no means of evaluating the performance of the postsecondary education system.

Solution: Implement an education and training consumer-report system that provides information about the performance of the system.

STUDENT REPRESENTATIVES OF THE UK COMMUNITY COLLEGE STUDENTS

Most important changes to make higher education more responsive and effective:

- A better system of credit transfer from community college level to major universities (e.g., the curriculum should be uniform throughout the state).
- Internships and cop-op programs to make transition from school to career more accessible.
- Technology readily available to all colleges and technical schools.
- Mandate of twelve years of high school and two additional years of college prep or vocational training.
- Better advising for new students.
- Expanded associate degree programs that include hands-on experience — including internships.
- Improved financial assistance programs, including better information for secondary school students as well as non-traditional students about options available.

Do the needs and conditions in different regions of the state require different changes?

Regions differ but each region's needs can be met through partnerships and bringing resources to each campus.

COMMUNITY COLLEGES: SYSTEM GOVERNANCE

Paper submitted to the Kentucky Task Force on Postsecondary Education
by the
Faculty Advisory Group: Community Colleges

The particular goals we seek to achieve in providing this analysis are as follows:

- Advance excellence in community college education.
- Identify and remove barriers to productive working relationships, both internally and in relation to other postsecondary educational institutions.
- Progress toward a high-performance community college system.
- Facilitate progressive change by including the views of those affected in decisions about the change process and its outcomes.
- Implement governance structures that support goals 1 - 4 above.

Evaluation of Current System Management

A modification of the current governance structure or adoption of an alternative method of community college governance should address the employee/management and funding problems identified by the faculty.

Alternative Governance Structures

Of the alternative governance structures that have recently been proposed, survey results indicate that community college faculty are most receptive to the creation of an independent community college system governed by its own board of trustees and regulated by the Council on Higher Education, assuming that such an arrangement would improve their circumstance. Among those who favor this option, it appears that it is viewed as a viable means for eradicating problems of the current system and forwarding educational excellence. Survey respondents are less receptive to the prospect of merger with Kentucky Tech under an independent board regulated by the Council on Higher Education, even if their material circumstance and working conditions were to improve. Nevertheless, on the KCCFA and KASE surveys, a majority of community college and vocational/technical respondents indicated that they were either in favor of or still undecided about this proposition. Whether or not community college and vocational/technical faculty will ultimately support a particular governance structure will depend on more specific details than are currently available. Therefore, *adoption of any new governance structure must consider faculty views and input if the new system is to achieve maximum support and success.*

Conclusion

The Commonwealth's community college system currently enrolls one-third of all public college students in Kentucky. Clearly, the quality and appropriateness of the education and training provided by the CCS are consequential for the state's economic development. The KCCFA survey identifies significant problem areas in the current governance structure which, whether through modification or adoption of a new system, must be addressed if the community college system is to be positioned to assist the Commonwealth to become "a leader in the global economy of the twenty-first century".

COMMUNITY COLLEGE FACULTY

Community Colleges: Local Governance

Goals

- Achieve excellence in community college education.
- Create the optimal environment within which each community college may perform.
- Empower the local community stakeholders.
- Reduce the layers of bureaucracy that currently exist.
- Enhance participatory efforts to accomplish common goals of the communities.

Current Emphasis on the University of Kentucky

- The University of Kentucky provides no mechanism of local governance for the fourteen (14) community colleges located across the state.
- The University of Kentucky Community College System's form of governance and operation was developed and based on managerial structures and techniques of the 1960s. This system has evolved reluctantly from its inception and could prove antiquated as the Commonwealth approaches the twenty-first century.

Emphasis on Communities

- Provide local communities with enhanced operating and policy-making authority over their local community college campuses.

Local Board of Trustees

- Achieve the optimal utilization of each local community college through local governance initiatives. A community-based board of trustees system would allow each community the ability to tailor its community college to its individual requirements.

Composition of Local Boards of Trustees

- Include all of the essential stakeholders on local governing boards to achieve an optimal educational environment.

- A student representative should be selected by the student body to represent their interests.

System Governance

- Establish a statewide governing body to accomplish common goals of the community college system within the higher education community, id est — within the framework of the Council on Higher Education.

  - Economies of scale in payroll operations, employee benefits, purchasing.
  - Curriculum standardization and common course numbering.

Local Financing

- Fund community colleges by the state in an equitable fashion comparative to the other institutions of higher education within the Commonwealth. Local community college tax revenues should not be utilized for the purpose of subsidizing inequitable funding by the state.

- Once comparable funding has been achieved for the community colleges, develop tax base to provide supplemental funding.

COMMUNITY COLLEGES: DISTANCE LEARNING AND UTILIZATION OF INCREASED TECHNOLOGY

Faculty Advisory Group: Community Colleges

Goals

- Educational Quality: Kentucky's students should receive the best possible education. Standards of educational excellent must be established and maintained.
- Educational Opportunities: Access to higher education should be provided for as many members of our communities as possible.
- Teaching methodology: Students should be exposed to the best pedagogical methods available – from traditional classroom instruction to the use of advanced technology, including the use of the Internet, interactive video, tele-courses, etc.

"Virtual University"

- The Western Governors' Association "Virtual University" [now formally called the Western Governors University] was established "to make a broader range of learning more accessible to the citizens of the West through advanced technology." The WGU is not the only "virtual" university.
- The concept of a "virtual university" as merit.
- Legislators, college administrators, faculty and students must be aware of the potential hazards in the "virtual university" concept.
- Distance learning will not meet the needs of all students.
- Allowing higher education to fall into the hands of agencies other than the colleges and universities of the state might very well diminish quality.

Costs

- Cost cannot be the sole consideration in higher education.
- Despite preconceptions about its economical nature, technology costs money.

Implementation

At this point, observers have limited understanding of:

- The long- or short-term effectiveness of computer-based technology learning (as opposed to traditional on-campus classes).
- The long-term reactions of students or employers to "virtual universities."
- The up-front, continued, hidden, or otherwise – of technology-driven education.
- Until these concerns are addressed satisfactorily, the Commonwealth should proceed with caution.

COMMUNITY COLLEGES: ISSUES IN ACCOUNTABILITY

Faculty Advisory Group: Community Colleges

- Faculty in the community colleges support the accountability movement (as reflected in Senate Bill 109) and are playing an integral part in helping shape the form it takes in the state.

- Accountability remains a controversial subject in implementation on the campuses:

  - Lack of agreement on a working definition of accountability and the means of measuring it.

  - Specific issues related to standards related to the community colleges.

The paper reviews in further detail issues related to:

- Accountability standards:

  - Sphere of control
  - Examples of problems with measurement
  - Fit for community colleges

- Meaningful accountability standards and enhanced performance

UNIVERSITY STUDENTS

1. Attrition must be a primary concern to the University community.

   - look at the selection process; increase selectivity in the admissions process.
   - increase internship-for-credit programs
   - increase mentoring programs

2. Value quality classroom instruction by faculty.

   - Appreciate good teachers as much as those faculty who act solely as research professors

   - Begin capital campaigns to establish no less than one endowed professorship for instructional faculty in each major department at each university.

3. Research and technology are integral to evolution of the university.

   - Recognize that graduate students and postdoctoral fellors represent the chief human capital that fuels Kentucky's cutting-edge research.

   - Solidify commitment to both research and technology as well as to the graduate students who drive this development by increasing both funding and non-monetary assistance to these programs.

4. Do not alienate outstanding students to cater to other students.

   - Each university should act to address the needs and concerns of outstanding students.

5. Recognize the equivalence of general education courses.

   - Establish an inter-university equivalency agreement for general education courses.

FACULTY ADVISORY COMMITTEE OF THE TASK FORCE AND COALITION OF SENATE AND FACULTY LEADERS (COSFL)

Governance and Change: A Faculty Perspective

Recommendations

- Faculty should be **included in the continuing proceedings** of the Task Force.
- Most important, faculty should have a formally established, ongoing voice in deliberations of change and governance. To establish a permanent channel for faculty input in statewide discussion of higher education policy, we recommend that a **faculty member be added to the Council on Higher Education**.
- University Governing Boards should be allowed to continue to operate independently, but they should be strongly encouraged to cooperate more effectively. The pressure to improve cooperation should be brought about by the Council on Higher Education and, especially, by the Office of the Governor.

Funding for Higher Education in Kentucky: A Faculty Perspective

Recommendation

- The Task Force on Postsecondary Education should endorse the higher education funding proposals put forth by the Kentucky Advocates for Higher Education and the Council on Higher Education during 1995 and 1996 to fund higher education at least to the average of benchmark institutions.

Distance Learning: A Faculty Perspective

Recommendations

- A special statewide task force should be formed to study the issues, costs, potential opportunities and benefits, effectiveness, and future role of distance learning. It should also address the options for institutional cooperation to avoid unnecessary duplication.
- Faculty — who are ultimately responsible for the learning environment — should be included in campus and statewide committees or decision-making groups which establish institutional and statewide policy related to distance learning.
- Costs of distance learning (e.g., technology updating, faxing, computer hook-up charges) should be fully funded at state and institutional levels; these funds should note be transferred to departments or to individual faculty budget lines.

Technology: A Faculty Perspective

Recommendations

- Realistic and adequate appropriations must be made available at the statewide and institutional levels — there is little point in talking about *minor* improvements in access to current technology in higher education.

- Faculty members who use current technology **must** be involved in making the budget estimates and decisions about which technology to acquire **at every level** in Frankfort, in the making of each institutional budget, and in the making of each departmental budget.

Libraries: A Faculty Perspective

Recommendations

- All library facilities should be wired and equipped with the most current technological capabilities for the exchange of information electronically. Available technology will allow users statewide to search all Kentucky academic libraries' databases instantaneously. Ideally, users should be able to request and have delivered any information resources they need. Through existing protocols, such as Z39.50, this statewide access service is now available. Such a system has already been implemented in Illinois and Ohio.

- A centralized, commonly shared library storage facility for little used but important materials should be established. Such a facility would decrease the need for major library expansion efforts and help solve the space limitation problem within existing libraries.

- A position, with statutory authority, in either the Council on Higher Education or some other governing body should be established to mandate and coordinate inter-institutional library cooperative efforts, including all of the activities discussed above.

Athletic Funding: A Faculty Perspective

Recommendations

- The Council on Higher Education should establish limits on the use of state appropriations to fund athletics.

- The Council on Higher Education should establish limits on the use of student activity fees to fund athletics.

- The Council on Higher Education should require universities to be more accountable for their athletics funding, including those coming from public and private (i.e., university foundation) sources.

ASSOCIATION OF INDEPENDENT KENTUCKY COLLEGES AND UNIVERSITIES

- Recognize fundamental role of broad-based liberal arts education and its value not only to the individual but also to business, industry and society as a whole.
- Lower the overall investment of taxpayer dollars by encouraging cooperative strategies between the independent sector and the state.
- Relate need-based student aid for access and choice to tuition and fully fund student aid.
- Explore new student aid programs that acknowledge academic achievement as well as student financial need.
- Change the funding formula to reward quality, cooperation, cost containment efforts, and the ability of students to choose the type of institution best suited to their needs and abilities rather than institutional expansion.
- Relate state supported tuition to a reasonable percentage of the cost of education and the consumers' ability to pay. Use tuition policy to reward degree completion and to discourage students from dropping in and out of the system.
- Invite all postsecondary providers, public and private, to participate in new technologies and information services.
- Provide access for all institutions to state-supported research and public service contracts.
- Develop an on-going forum for all institutions to discuss issues of common concern and work collectively toward solutions.

POSTSECONDARY PROPRIETARY ADVISORY GROUP

Recommend two primary and several secondary changes to the higher education delivery system:

- Make attendance at postsecondary institutions a matter of "choice"
- Value all forms of postsecondary education and training on an equal basis

Other Points and Recommendations:

- It is unlikely that Kentucky will reach the desired result in higher education reform until all parties are brought to the table as equals. The current "exclusive" hierarchy, either perceived or real, places research universities at the pinnacle, and the proprietary and vocational institutions off the chart at the opposite end.
- The structure of the Task Force continues this separation. No effort was made to solicit a joint report.
- Basic questions:
  - Why does Kentucky offer programs at state-supported universities that are being delivered effectively and in sufficient amounts by private and proprietary institutions?
  - Why do Kentucky citizens have to choose between attending a state-supported or private not-for-profit institutions, where they can use their state grant dollars, and a private, for-profit institution, where they must pay additional dollars because they cannot use the state grant dollars?
- Recommendations
  - Agree with private college advisory group:
    * In the change in the method of financing higher education in Kentucky to fund students rather than institutions.
    * In support of adequate funding for research.
    * In importance of liberal arts education.
  - Allow all students to have access to state grant dollars, regardless of the institution they choose to attend.

- Focus accountability on true outcomes and make these applicable to public institutions as they are not applicable to the private sector.

    * All institutions should make retention, graduation and placement rates available for applicants to assist them in making informed educational decisions.

- Improve transferability of credit.

- Bring all accrediting agencies to the table – including the recognized national accrediting agencies that accredit many of the proprietary schools in the Commonwealth. Avoid identifying one accrediting group as better than another.

- Address the issue of out-dated and irrelevant programs.

- Everyone must be brought to the table on equal terms. Elitism as well as turf must be put aside.

NATIONAL SCIENCE FOUNDATION ADVANCED TECHNOLOGY EDUCATION PROJECT (NKATE)

NKATE Faculty Subgroup

Problem

Council on Higher Education requirements and limited access to technology block the ability of the UK Community Colleges to offer certain advanced technology associate degree programs on a system-wide basis using distance learning and technology-based teaching and learning.

Barriers

- CHE rules that mandate that new AAS degrees include expectations of a minimum of ten graduates per program per year and a minimum total enrollment of twenty-five students. Because these are interpreted on an institution-by-institution basis, they do not recognize the efficiencies that could be achieved by developing a system-wide degree program using technology-based teaching and learning.

- Lack of access to interactive video at many of the community colleges and lack of infrastructure necessary for community colleges to offer courses via interactive video and the Internet.

Solution

- Break the policy barriers to establishing system-wide degree programs.

- Provide funding and leadership to develop the technology infrastructure.

D. FRED LANDRUM
DEAN OF BUSINESS AFFAIRS
HAZARD COMMUNITY COLLEGE

- The current model of postsecondary education in Kentucky has been successful within the constraints of funding in providing citizens with the knowledge and skills to enable them to support themselves and to make a positive contribution to society.

- Make change with care to ensure that a reasonably sound system is not harmed.

- Look for new ways to improve to respond to rapid changes in technology and the possibility of additional financial resources.

- Utilize new technology to increase accessibility, maintain quality and improve cost effectiveness.

- Develop a new university — a "virtual university" to encourage creativity and cooperation among institutions and address barriers faced by students, such as:

  - Difficulty of non-traditional students relocating to a university for course work.
  - Transfer barriers and lack of coordination of similar programs at different institutions.

- Use the virtual university to overcome "turf" protection than can delay or totally inhibit change.

- Develop the virtual university as a "no frills" entity by:

  - Including curricula similar to all the degree and certificate programs already offered by Kentucky institutions.

  - Reviewing existing curricula and streamline them to include only courses necessary to achieve desired outcomes.

  - Providing students with an opportunity to pursue their objectives through correspondence courses, telecourses, Internet courses, compressed video classes offered by the virtual university or some other statewide delivery system.

  - Make use of any method of delivery that enhances accessibility, reduces cost and maintains quality.

- Use the virtual university to:
  - Develop model AA and AS degrees and a model AAS degree.
  - Extend graduate education.
  - Make it possible for high school students to complete advanced credit courses.
- Use the virtual university as:
  - An agent and catalyst in development and maintenance of state-of-the-art, statewide delivery systems.
  - As a partner, competitor and change agent for the existing postsecondary institutions.
- Address the current inefficiency of state-funded institutions. Reward clarification of missions and demonstration of cooperation and efficiency.
- Do not change management systems, such as combining the community colleges and Vo-Tech institutions.
  - Each has a distinct mission.
  - Provide for seamless transfer of technical course work from Vo-Tech into an AAS degree within the community college system.
  - Great harm would be done to the community college system if it were transferred from the University of Kentucky.
  - The community college system needs equity funding.

APPENDIX III

Chapter 1

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Kentucky's Per Capita Income: Catching Up to the Rest of the Country

Mark C. Berger

A goal among many leaders in Kentucky is to see the state's per capita income equal or exceed the national per capita income average. Although Kentucky has narrowed the income gap recently, its per capita income still stands at only 81 percent of the national average. Matching this national level would require significant changes in Kentucky. The state would need large increases in the number of high school and college graduates in the state, and/or in the percentage of private sector employment per capita. Based on previous rates of increase, it will still be many years before Kentucky's per capita income is equal to the national average.

Introduction

A frequently used indicator of a state's economic health is per capita income. Historically, Kentucky's per capita income has been below that of the U.S. average, although that gap has narrowed in recent years. In 1995, per capita income in the U.S. stood at $23,208 in 1995 while in Kentucky the level was $18,849.[1] Many believe that an important goal for Kentucky is to narrow the gap between its income and that of the rest of the country. Kentucky Governor Paul Patton, in a recent speech to the Hopkinsville Chamber of Commerce, said that his goal was to see per capita income in Kentucky above the national average.[2] Although this may be a lofty goal, there is cause for optimism given the recent history of income levels in Kentucky. Indeed, while per capita income in Kentucky stood at only 78.3 percent of the national average in 1985, by 1995 it had increased steadily to 81.2 percent of the national average.

In this article, I examine long-term trends in Kentucky's per capita income relative to the national average. In the process, I address several questions: 1) Has the recent increase in Kentucky's per capita income relative to the U.S. average been part of a long-term increase or has it been confined to more recent years? 2) Has Kentucky's experience mirrored that of other states, or has it been unique? 3) What determines differences in per capita income at the state level? 4) Can these determinants explain why Kentucky's per capita income is below the national average? 5) What can explain the increase in Kentucky's per capita income relative to the national average in recent years? 6) How different would Kentucky have to be today to be at the national average of per capita income? 7) How long will it take for Kentucky to reach the national average per capita income?

Per Capita Income as a Measure of Well-Being or Standard of Living

Per capita income is often used by policymakers and the public as an overall index of well-being or standard of living in an economy. Thus, before proceeding with the analysis, it is important to examine what per capita income measures and to look at its strengths and weaknesses as an indicator of economic well-being.

Personal income data are collected by the U.S. Department of Commerce's Bureau of Economic Analysis as part of the National Income and Product Accounts. These data comprise wage and salary disbursements, other labor income, proprietor's income, rental income of persons, personal dividend income, personal interest income, and transfer payments to persons (e.g., Social Security, Aid to Families with Dependent Children, etc.). The majority of personal income comprises wage and salary disbursements, followed by transfer payments to persons and personal interest income. Table 1 shows the 1995 breakdown of personal income into its components for the U.S. and Kentucky.

Thus, personal income is just the total amount of income earned or disbursed to individuals in the economy in one form or another in a given year. Individuals then use this personal income to purchase goods and services, pay taxes, or place in savings or investments. It is thus a broad-based measure of economic well-being for the economy. *Per capita* personal income is simply the total personal income divided by the total population, which

TABLE 1

Personal Income and Its Components, U.S. and Kentucky, 1995

	Kentucky[1]		U.S.[2]	
	Amount	Percent	Amount	Percent
Wage and salary disbursements	40.644.369	86%	3.423.330	85%
Other labor income	5,476,497	12	423,799	11
Farm proprietors' income	5.282.519	11	19.529	0
Nonfarm proprietors' income	623,446	1	449.257	11
Less: contributions for social insurance	-3.650.670	-8	-294.013	-7
Less: adjustment for residence	-250.831	-1	-873	-0.02
Net earnings by place of residence	47.501.884	65	4.021.029	66
Dividends, interest, rent	10,879,281	15	1.054.107	17
Transfer payments	14.380.955	20	1.022.841	17
Total personal income	72.762.120	100	6.097.977	100
Population (000s)	3.860		262.755	
Per capita income (dollars)	$18.849		$23.208	

[1] In thousands of dollars unless otherwise noted.
[2] In millions of dollars unless otherwise noted.
Source: U.S. Department of Commerce, Bureau of Economic Analysis. unpublished data.

gives a per person measure of the income earned or disbursed to individuals in the economy. As a result, per capita income adjusts for population differences over time or across states.

The chief limitation of personal income as a measure of well-being is that it does not measure activities or things that people value that are not traded in the marketplace. For example, environmental quality or other amenities are not reflected in personal income, nor is the value of leisure time or the value of services provided inside the household. Nevertheless, personal income covers a broad base of economic measures better than any other indicator. For instance, another indicator such as the unemployment rate only gives the percentage of persons without work, not the well-being of those with work. Similarly, the employment rate tells the percentage of persons that are working but not the earnings of those workers. On the other hand, average wages would provide the earnings of workers but not the income non-workers have at their disposal. Consequently, personal income is the best measure of economic well-being that is readily available.

Per Capita Income in Kentucky Relative to the U.S.

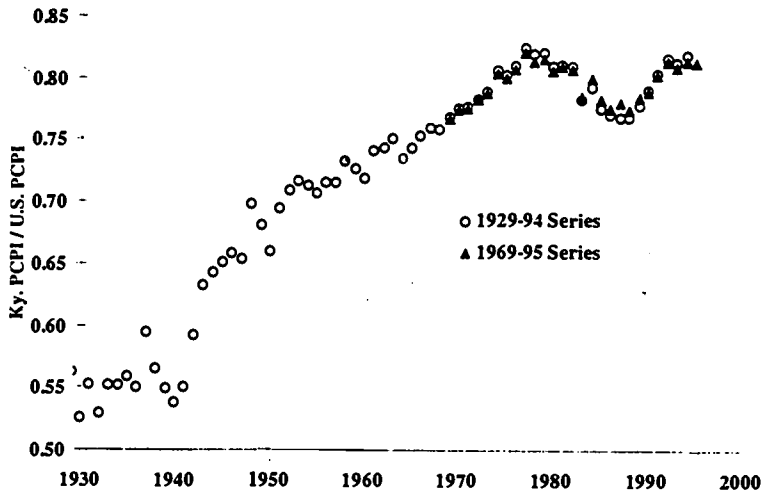
Figure 1 shows the ratio of per capita income in Kentucky to the U.S. average from 1929 to 1995, the entire time period for which per capita income data are available from the National Income and Product Accounts. Two series are shown in Figure 1: the first spans the period from 1929–94, and the second shows the new series recently published by the Bureau of Economic Analysis that covers the period from 1969–95 but is not comparable to the earlier series.[3]

Figure 1 tells an interesting story. Per capita income in Kentucky relative to the U.S. average rose steadily until about 1979 or 1980, exhibiting the long-run convergence familiar to regional and growth economists. For instance, Barro and Sala-i-Martin argue that marginal returns to capital may be higher in states with low income *levels*, and thus growth may be higher, promoting convergence.[4] Convergence may also occur if there is mobility of businesses and workers across states. Businesses will tend to migrate where land and labor costs are lower, expanding economic activity and raising per capita income. In contrast, workers will tend to migrate where wages are higher, increasing the supply of workers in certain areas and exerting downward pressure on income. The net effect of such mobility would be an equalizing of incomes across states and higher rates of growth in per capita income observed in low income states.[5]

In the long run, with such mobility of businesses and workers, incomes would be completely equalized across states except for differences reflecting location-specific factors. Blomquist, Berger, and Hoehn examine such differences due to location-specific amenities such as climate, air and water quality, and other natural conditions.[6] For example, if people find Kentucky to be a pleasant place to live because of its climate or natural features such as rivers or mountains, then per capita incomes may remain below the national average; in other words, Kentucky residents are willing to accept a lower income to live in a desirable location. Per capita incomes in undesirable locations would lie above the national average to compensate individuals for living in unpleasant conditions. Nonetheless, excepting location-specific amenities, both growth theories and regional models of economic behavior predict an eventual convergence of per capita income for Kentucky and the U.S.

FIGURE 1

Kentucky Personal Per Capita Income (PCPI) Relative to U.S. Average, 1929–95



Source: U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data.

Contrary to the long-run pattern of convergence, however, Kentucky's relative per capita income fell rather sharply in the early and middle 1980s. This fact suggests that the recession and economic restructuring of that period affected income in Kentucky more than in the rest of the country.[7] Since about 1985, though, Kentucky's per capita income has been rising relative to the national average, so that the state's relative income now stands approximately at its 1979–80 level. Viewed in this light, the recent increase in Kentucky's income has represented a catching up to a level relative to the national average that had been reached previously.

What will the future hold and how quickly can we expect Kentucky's per capita income to converge to the national average? We can get some clues about the process of convergence by looking at the experiences of other states. I turn to this analysis in the next section.

Kentucky's Experience Compared to Other States

Has this convergence to the national per capita income average been unique to Kentucky, or has it occurred in other states? Table 2 shows that convergence has been proceeding on a nationwide basis regardless if considering the entire period of available data (1929–94) or the last 10 years. This table shows the average change in the ratio of state to U.S. per capita income, both for those states that began each time period above the national average and those that began below the national average. As would be expected from convergence, the average change for those states above the average is negative and positive for those below the average. States like Kentucky that are below the national average are catching up over time and those above the national average are falling toward it. Figure 2 focuses on the experience of Kentucky and surrounding states over the last 10 years. It shows that the pattern of convergence to the national average has also occurred in states neighboring Kentucky.

As Kentucky's relative income has risen, has its per capita income ranking among the states changed? Figure 2 shows that there has been no change in rankings over the last 10 years among surrounding states. Table 3 shows the top 10 and bottom 10 states in per capita income rankings in 1985 and 1995, expressed in terms of income relative to the U.S. average. Table 3 shows that even though convergence to the national average has been occurring, the state rankings change slowly. Kentucky was ranked 44th in per capita income in 1985, and after 10 years of convergence, it had only moved up to 43rd by 1995.

What Determines a State's Per Capita Income?

On the most basic level, factors that affect per capita income are those which raise or lower the amount of income a person receives in a state. One such set include factors which raise or lower the productivity of the labor force. Most obvious among these is the level of education. Workers in states with higher levels of education among their residents will

TABLE 2

Convergence of States' Per Capita Income to U.S. Average, 1929–94 and 1985–95

	Time Period	Number of States	Average Change in Relative Income
States above U.S. average, 1929	1929–94	14	-0.1780
States below U.S. average, 1929	1929–94	34	0.1825
States above U.S. average, 1985	1985–95	17	0.0004
States below U.S. average, 1985	1985–95	33	0.0092

Source: U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data.

FIGURE 2

Per Capita Personal Income (PCPI) in Kentucky and Surrounding States Relative to U.S. Average, 1985–95

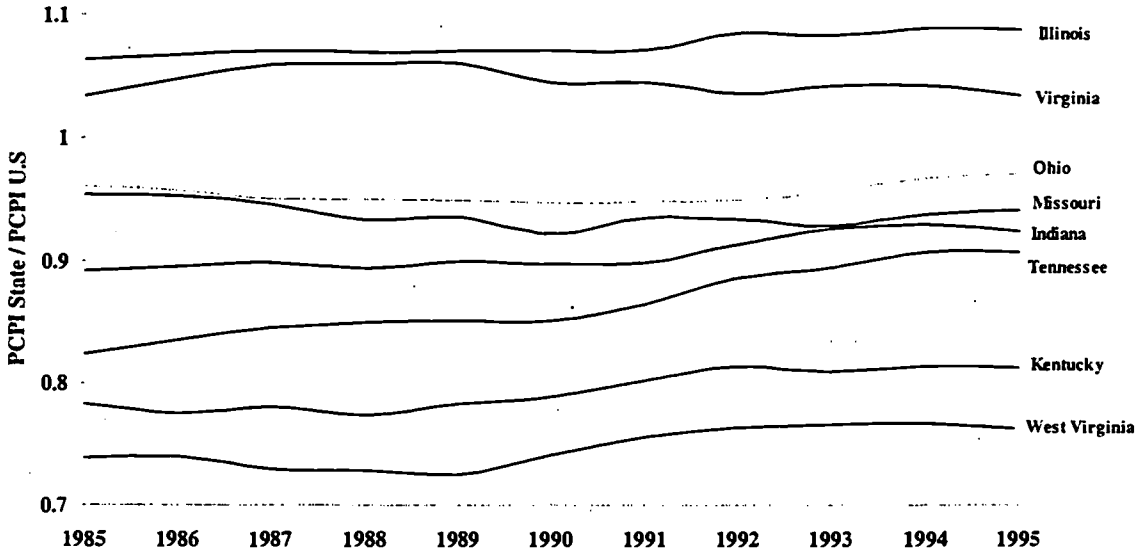


TABLE 3

Top 10 and Bottom 10 States Ranked by Personal Per Capita Income (PCI) Relative to U.S. Average, 1985 and 1995

	1985 State	1985 Relative PCI	1995 State	1995 Relative PCI
1	Alaska	1.31	Connecticut	1.37
2	Connecticut	1.28	New Jersey	1.29
3	New Jersey	1.24	Massachusetts	1.21
4	Massachusetts	1.17	New York	1.19
5	New York	1.15	Maryland	1.13
6	California	1.15	Delaware	1.13
7	Maryland	1.14	New Hampshire	1.10
8	New Hampshire	1.10	Illinois	1.09
9	Delaware	1.07	Hawaii	1.06
10	Illinois	1.06	Nevada	1.05
41	South Dakota	0.80	Idaho	0.81
42	Montana	0.79	Kentucky	0.81
43	Idaho	0.79	North Dakota	0.80
44	Kentucky	0.78	Oklahoma	0.80
45	South Carolina	0.78	Montana	0.79
46	Alabama	0.77	Utah	0.79
47	Utah	0.76	New Mexico	0.78
48	Arkansas	0.76	Arkansas	0.78
49	West Virginia	0.74	West Virginia	0.76
50	Mississippi	0.66	Mississippi	0.72

Source: U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data

earn more in the labor market and thus increase those states' per capita income. Not only productivity, but employment of workers in general will be a very important factor affecting per capita income across states. States with a higher percentage of their population working will have more people earning wages and salaries and thus are likely to have a higher per capita income. In addition, whether the state is primarily urban or rural will have an impact on the model. Rural states will have a disproportionate number of individuals working in agriculture, where wages and incomes will tend to be lower. Thus, the very nature of the jobs in rural states will tend to hold down per capita incomes.

I have constructed an econometric model of per capita income that explains variation in income across states in 1995. After experimenting with several different combinations of variables which account for the factors discussed in the previous paragraph, I have specified five variables that do a good job in explaining differences in per capita income across states.[8] Table 4 shows these variables and the results of the estimated econometric model. This table also shows the average values of the variables across all the states and the Kentucky values of the variables which will help explain why Kentucky's income is below the national average.

From these econometric estimates, the following conclusions can be drawn about the determinants of per capita income across states: States with higher education levels, as measured by the percentages of the population over age 25 that are high school and college graduates, have higher per capita incomes. States with higher private

TABLE 4

Econometric Estimates Explaining Per Capita Income by State, 1995 [a]

Variable	Estimated effect [b]	Kentucky value	Average of states
% of population over 25 & high school graduate	0.0096 *	31.7	30.9
% of population over 25 & college graduate	0.0208 *	13.6	20.0
Private sector employment per capita	0.7679 *	0.4361	0.4860
Public sector employment per capita	-0.4528	0.0832	0.0965
% of population living in rural areas	-0.0039 *	48.1	31.1
Intercept	9.083 *	—	—
Log of per capita personal income	—	9.844	10.00

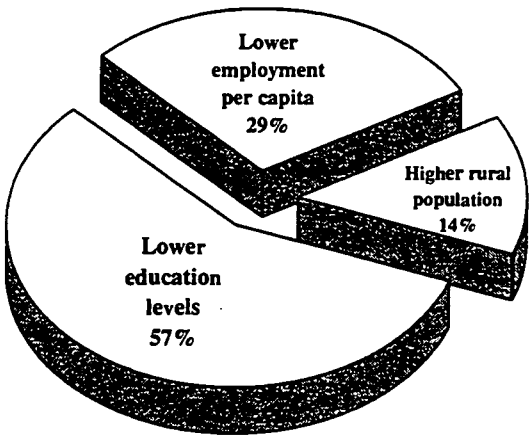
[a] The dependent variable is the natural log of per capita personal income. Fifty-one observations (including the District of Columbia) were used in the analysis. The R^2 for the estimated model is 0.7615.

[b] A * denotes statistical significance at the 5 percent level in a two-tailed test.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data.

FIGURE 3

Explaining the Difference Between Kentucky and U.S. Per Capita Income, 1995



Source: Calculated from results shown in Table 4.

sector employment per capita also have higher income per capita. Interestingly, states with higher government employment per capita, holding other variables constant, have lower per capita income. This finding suggests that improvements in per capita income are more likely to be obtained if job growth comes from the private rather than the public sector. Finally, as expected, states with higher rural populations have lower per capita incomes.

Why is Kentucky's Per Capita Income Below the National Average?

The results of the econometric model can be used to explain why Kentucky's per capita income level is below that of the average across all states. This is done by calculating the differences in the predicted per capita incomes arising from differences in education levels, employment per capita, and the percentage of population that is rural between Kentucky and the U.S. Figure 3 shows this calculation. We see that 57 percent of the difference between Kentucky's predicted per capita income and the predicted average of the states' per capita incomes is due to education differences — primarily Kentucky's low percentage of college graduates among the population age 25 and over. That Kentucky is a much more rural state than average accounts for 29 percent of the difference, and the remaining 14 percent comes from the fact that Kentucky's employment per capita is lower than the average of the rest of the states.

Thus, the lion's share of the difference arises from the lower education levels in Kentucky compared to the average of other states. If education levels were higher, Kentucky's per capita income would be closer to the national average. In fact, the model suggests that if Kentucky's education levels were equal to the national average, 57 percent of the gap between Kentucky's per capita income and the national average per capita income could be closed.

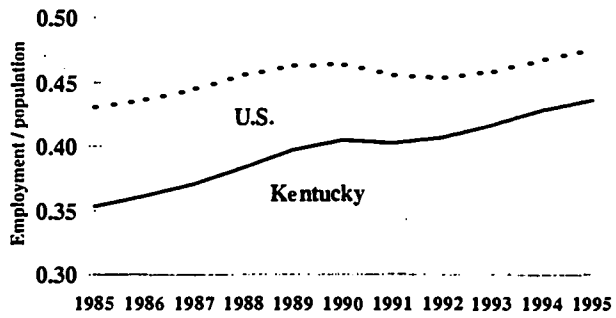
Kentucky's Per Capita Income from 1985 to 1995

In considering why Kentucky's per capita income has risen relative to the rest of the country from 1985 to 1995, we need to look for trends in Kentucky that are different from the rest of the country. Education levels have been improving over time both in Kentucky and in the rest of the country, so education cannot explain the rising per capita income in Kentucky. Similarly, there has been a small decline in the percentage of the population living in rural areas in both Kentucky and the rest of the country. That leaves employment/population changes.

While the recession of the early 1980s was particularly hard on Kentucky, the opposite was true for the recession of the early 1990s. Kentucky barely felt that recession, and since then, job growth has been

FIGURE 4

Private Sector Employment Per Capita in Kentucky and U.S., 1985–95



Source: U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data.

stronger in Kentucky than in many other places. At the same time, population growth in Kentucky has not been as strong as in the rest of the country. These two factors combined imply that employment per capita has been rising faster in Kentucky than in the rest of the country. Figure 4 shows the changes in private employment per capita in Kentucky and for the U.S. From this figure it is apparent that private employment per capita has been increasing faster in Kentucky than in the rest of the country, and this difference may be partially responsible for the relative gain in Kentucky per capita income from 1985–95. This employment growth has in part contributed to the resumption in the convergence of Kentucky's per capita income to the U.S. average so that it is now back to the level it was before the recession of the late 1970s and early 1980s.

Making Them Equal

We can use the results of our econometric model to construct scenarios under which Kentucky's per capita income would be equal to the U.S. per capita income. We must ask how different Kentucky's characteristics must be for the state's per capita income to be equal or greater than the U.S. average. In Table 5, I consider three different scenarios that might accomplish this goal. The first scenario increases Kentucky's education levels until the predicted per capita income from the model matches the national average. Under this scenario, Kentucky would have the same number of jobs, but its workers would be more educated and hence more productive, all of which would raise incomes. The second scenario increases private sector employment per capita, increasing the number of jobs while holding education levels constant. More jobs might exist because there are more employers in the state, or labor force participation rates, which are lower in Kentucky than in most other states, might rise. In the third scenario both education levels and private sector employment per capita are raised. All three scenarios hold constant the percentage of the population living in rural areas and the number of government jobs per capita.

... to have a per capita income level equal to the national average at present, Kentucky would need a far different economy and a much more educated workforce.

Scenario 1 means Kentucky would have a 50 percent higher percentage of the population age 25 and over with a bachelor's degree or higher and a 20 percent higher percentage of high school graduates. Kentucky would then lie almost exactly at the average of the other states for the percentage of college graduates (20.4 percent vs. 20.3 percent) and well above the average of the other states for the percentage of the population that are high school graduates that did not attend college (38.0 percent vs. 30.9 percent). In fact, such a 20 percent increase in the percentage of the population that are high school graduates only would place Kentucky ahead of all other states, including Pennsylvania, where 38.7 percent of the population age 25 and over are high school graduates.

Scenario 2 would correspond to a 60 percent increase in the number of private sector jobs per capita. This would put Kentucky far above the average of the other states.

TABLE 5

Changes in Kentucky's Education Levels and Employment Required for Per Capita Personal Income to be Equal to or Greater than U.S. Average, 1995

Characteristic	Scenario 1	Scenario 2	Scenario 3
% of population 25 and over & high school graduate	+ 20%	—	+ 10%
% of population 25 and over & college graduate	+ 50%	—	+ 25%
Private sector employment per capita	—	+ 60%	+ 30%

Source: Calculated from results shown in Table 4.

In fact, only the District of Columbia would have a higher number of private sector jobs per capita and many of its jobs are held by commuters who do not live in the District.

Scenario 3 corresponds to increases in education levels and private sector employment per capita that are half the sizes of those in Scenarios 1 and 2. Such a combination of characteristics would give Kentucky a percentage of high school graduates similar to Nebraska and Vermont, a percentage of college graduates the same as Wisconsin and Idaho, and a private sector employment per capita similar to Nevada and Colorado. In general, the scenarios show that, to have a per capita income level equal to the national average at present, Kentucky would need a far different economy and a much more educated workforce.

How Long Will It Take?

Following the scenarios presented above, Kentucky would require a long time to catch up to the average U.S. per capita income. It might take a generation to raise education levels as much as needed, and, if education levels were rising at the same rate in the rest of the country as well, per capita income in Kentucky would not rise at all relative to the national average. On the other hand, the process of regional convergence, where capital and labor flow to areas with the highest return, should naturally raise per capita income in Kentucky relative to the rest of the country, as it has done in the past.

How soon should we reasonably expect this convergence? Looking at the long-term trends in Kentucky's per capita income relative to the U.S. average, we can see that it took over 30 years to increase Kentucky's relative per capita income from approximately 60 percent to 80 percent of the national average. To obtain more precise estimates of the rate of convergence, I have estimated regression models of Kentucky's relative per capita income over various time periods and reported the results in Table 6. As can be seen the estimates range from a predicted increase of 0.0045 per year (0.45 percent) over the entire 1929–94 time period of the old series to 0.0060 (0.60 percent) per year estimated from 1929–79. These estimates can be used to predict how long it will take Kentucky to move from its current level of 81.2 percent of U.S. per capita income to 100 percent of the U.S. level. Using the highest estimated rate of convergence (0.60 percent), Kentucky will catch up to the national average in 31 years and will reach 90 percent of the national average in 15 years.

Using any of the three estimates, it is clear that the convergence of Kentucky's per capita income to the national average is a long-run process and difficult to accomplish overnight. Even if Kentucky were to increase the highest estimated long-run rate of convergence by 50 percent, it would still take 21 years for the state to reach the national average level of per capita income.

Conclusion

Will Kentucky in fact reach this national average? Probably, given the progression toward convergence that has been and is still occurring in the U.S. Of course, if Kentucky is a desirable place to live and work, it may never completely reach the national average because residents will accept lower incomes to live here. Based on past trends of convergence, it will take many years for Kentucky's per capita income to reach the national average. The process could be accelerated, but it would be difficult. It would require that education levels or jobs grow faster than the national average, which may be difficult for Kentucky to sustain.

TABLE 6

Estimated Rates of Convergence and Number of Years until Kentucky Per Capita Income Equals U.S. Average Per Capita Income

Time period of estimation	Estimated annual convergence rate	Number of years until equality reached	Number of years until 90% of U.S. average reached
1929–94	0.45%	42	20
1929–79	0.60%	31	15
1986–95	0.51%	37	17

Source: Calculated using U.S. Department of Commerce, Bureau of Economic Analysis unpublished data.

Two Studies

Economic Impact

of

Public Higher Education

in

Kentucky

Economic Impacts of Kentucky's Public Institutions of Higher Education

Two reports produced by researchers at the University of Kentucky analyze and estimate the economic impacts of Kentucky's public institutions of higher education. One of the reports was authored by Dr. Charles F. Haywood, Director, Center for Business and Economics Research, and National City Bank Professor of Finance, College of Business and Economic, University of Kentucky. His report estimates the annual economic multiplier effects on total output, household earnings, and employment in Kentucky for the 1991-1992 fiscal year.

The second report is by Professors Mark C. Berger and Dan A. Black, of the University of Kentucky's Department of Economics. It focuses on the long-term impacts of state support of public higher education in Kentucky. The Berger-Black paper is an innovative analysis of the "human capital" value of public higher education in Kentucky. Both reports focus on the statewide impacts of the eight public institutions taken together: Eastern Kentucky University, Kentucky State University, Morehead State University, Murray State University, Northern Kentucky University, University of Louisville, Western Kentucky University, and University of Kentucky, including the UK Community College System.

In the 1991-1992 fiscal year, the state appropriations to Kentucky's eight public institutions of higher education totaled $672.2 million. The 1991-1992 fiscal year was the latest year for which detailed financial results were available for all public institutions when this study was made.

The state's expenditures had very substantial multiplier effects increasing the annual level of economic activity in the state. In the 1991-1992 fiscal year, aggregate spending in Kentucky was $2,292.2 million greater than it would have been in the absence of the state's public universities and colleges. The implied state-funding multiplier for 1991-1992 was 3.4. That is, each $1.00 of state funding generated $3.40 of total spending in Kentucky. To give further perspective to the total output

effect of $2,292.2 million, it is helpful to note that in 1991 total personal income in Kentucky was $58,027 million. The $2,292.2 million of aggregate output impacts of the state's public universities and colleges equaled 4.0 percent of that figure.

The number of persons employed in Kentucky in 1991-1992 was 67,862 greater than it would otherwise have been. The state-funding multiplier for employment in 1991-1992 was 5.94. State funding resulted directly in 11,430 jobs at the eight institutions, and the multiplier effects generated an additional 56,432 jobs in the Kentucky economy. The total employment effect in Kentucky was 67,862 jobs. This employment impact of 67,862 was 4.2 percent of the state's 1991 total employment of 1,615,000.

Wages and salaries throughout the state in 1991-1992 were $1,555.9 million greater than would otherwise have been the case. Approximately $396.7 million was directly attributable to General Fund support of the public institutions of higher education. The implied state-funding earnings multiplier was 3.92 That is, for each $1.00 of general fund support directed to payroll, $2.92 of additional earnings were generated at the institutions and in other sectors of the Kentucky economy. The earnings effect of $1,555.9 million was 3.8 percent of the $40,581 million of the 1991 total earnings of Kentucky's wage and salary workers.

Turning to the long-term impacts, the state universities and colleges in 1991-1992 added $8,518 million to the present value of the state's human capital stock. This figure represents the present value of the increases in lifetime earnings that the students enrolled in 1991-1992 gained by adding one more year to their educational experience. The $8,518 million should be regarded as an annual "value-added" figure. The value-added increments were $7,596 million for 1989-1990, $8,022 million for 1990-1991, $8,518 million for 1991-1992, and $8,584 for 1992-1993. That is, in four years -- or two bienniums -- the state universities and colleges produced $32.7 billion of

enhanced human capital earning power through their instructional programs. Professors Berger and Black also calculate various measures of human capital enhancement on a net basis, i. e., after subtracting appropriate costs. The "Government Return" for 1991-1992 was $7,846 million, after subtracting the General Fund support for the public universities and colleges. The "Social Return" for 1991-1992 was $7,248 million, after subtracting private as well as public costs.

Executive Summary

- State expenditures in support of Kentucky's eight public institutions of higher education have substantial multiplier effects, making for higher levels of income and employment than would otherwise exist in the Kentucky economy.

- Each $1.00 of state support for higher education in Kentucky in the 1991-1992 fiscal year resulted in $3.40 of total spending in the Kentucky economy.

- In the 1991-1992 fiscal year the $672 million of state appropriations to the public institutions stimulated $2.29 billion in total public and private spending in Kentucky.

- The $2.29 billion of total spending attributable to the direct and indirect effects of state support of higher education was equal to 4.0 percent of Kentucky's 1991 aggregate personal income of $58.0 billion.

- The related multiplier for employment in 1991-1992 was 5.94. For each job supported by state funding at the public universities and colleges, an additional 4.94 jobs in the public and private sectors of the Kentucky economy resulted from the direct and indirect spending effects of the state's support.

- In fiscal year 1991-1992 total employment in Kentucky was 67,862 greater than it would otherwise have been in the absence of state support for higher education. This employment impact was 4.2 percent of the state's 1991 total employment of 1,615,000.

- Wages and salaries throughout the state in 1991-1992 were $1.56 billion greater than would have been the case in the absence of state support for the public universities and colleges. State support accounted directly for $397 million, and the multiplier effects accounted for $1.16 billion.

- The $1.56 billion of wages and salaries equaled 3.8 percent of the $40.58 billion of total of wages and salaries received in Kentucky in 1991.

- Data from the 1990 U. S. Census clearly demonstrate that higher education substantially increases a person's life-time earnings. Each year of higher education adds to a person's "human capital value" in essentially the same way as saving and investing in a long-term bond adds to a person's net wealth today.

- The "human capital value" of the persons enrolled in Kentucky's eight public institutions of higher education in 1991-1992 was increased by $8.52 billion as a result of adding that year of higher education to their qualifications.

- The state's investment of $672 million in higher education support in 1991-1992 stimulated an increase of $8.52 billion in the "human capital" wealth of Kentucky.

- The addition of $8.52 billion to Kentucky's "human capital" wealth in 1991-1992 is for that year alone. In the four years 1989-90 through 1992-1993, the annual "value-added" additions totaled $32.7 billion. In comparison, state support during these four fiscal years totaled $2.54 billion. The "pay back" in the form of increase "human capital" wealth was 12.9 times the state's investment.

- The public institutions included in this analysis were:Eastern Kentucky University, Kentucky State University, Morehead State University, Murray State University, Northern Kentucky University, University of Louisville, Western Kentucky University, and University of Kentucky, including the UK Community College System.

TABLE 12: Total Long Run Economic Impact by Gender
Degree Level, and Year, in Billions of 1993 Dollars

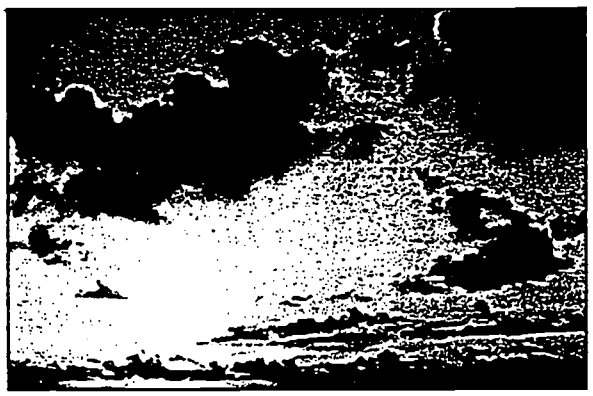
	1989-90	1990-91	1991-92	1992-93
MALES				
Associate Degree	.904	.967	1.104	1.144
Bachelor's Degree	2.939	3.048	3.134	3.059
Master's Degree	.181	.175	.192	.193
Doctorate or Prof. Degree	.245	.242	.256	.277
Total Male Impact	4.268	4.432	4.687	4.673
FEMALES				
Associate Degree	1.410	1.605	1.788	1.873
Bachelor's Degree	1.628	1.687	1.730	1.710
Master's Degree	.221	.227	.234	.246
Doctorate or Prof. Degree	.069	.071	.078	.082
Total Female Impact	3.330	3.590	3.831	3.911
Total Impact	7.598	8.022	8.518	8.584
Source: Authors' Calculations				

TABLE 13: Total Long Run Economic Impact by Broad Field of Study
and Year, in Billions of 1993 Dollars

Universities	1989-90	1990-91	1991-92	1992-93
Business	$.767	$.772	$.737	$.671
Liberal Arts	.706	.756	.698	.789
Engineering	.574	.601	.667	.670
Science	1.103	1.184	1.313	1.426
Education	.397	.421	.538	.467
Other/Undeclared/Non-Degree	1.975	1.973	1.944	1.828
Community Colleges	2.075	2.315	2.620	2.732
Total Impact	7.598	8.022	8.518	8.584
Source: Authors' Calculations				

EXPLORING THE FRONTIER OF THE FUTURE

How Kentucky will live, learn and work



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THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

The Earnings of Dropouts and High School Enrollments: Evidence from the Coal Boom and Bust

The coal boom of the 1970s may have had an unanticipated outcome in Pike County, creating high-wage, relatively low-skill jobs in the local economy that effectively rewarded dropping out of high school. The implications are significant for an economy that has continued to produce incentives for college graduation, while providing little incentive to complete high school. These findings underscore the importance of linking economic reward to academic achievement. Earnings opportunities for high school graduates can be improved through better academic preparation for the workplace of today.

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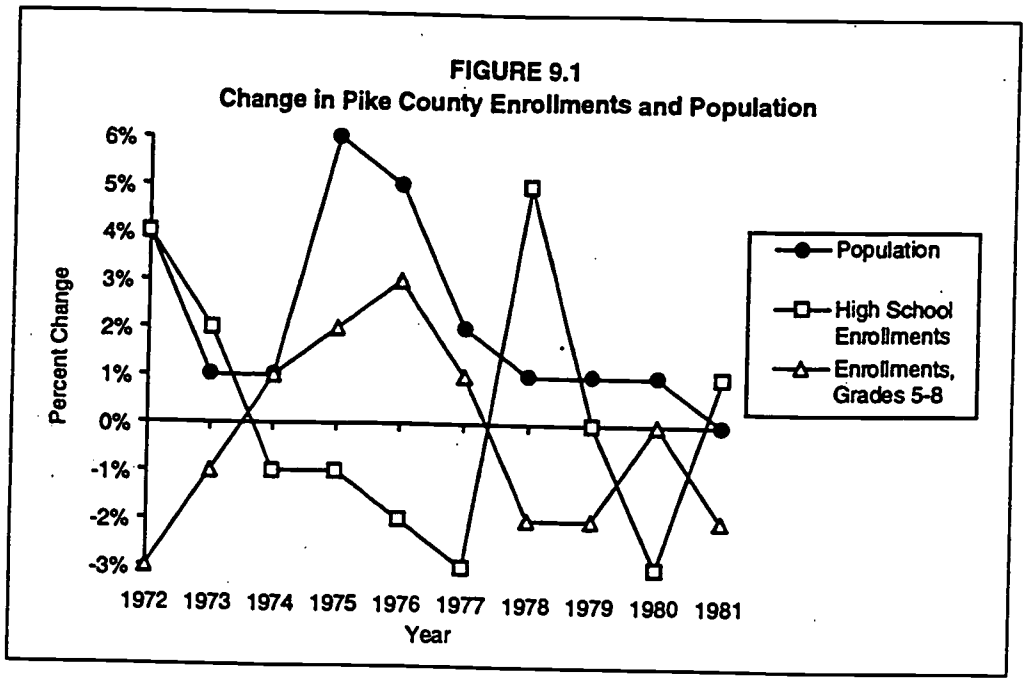
Economic theory suggests that when students make the decision to drop out of high school they consider how their decision will affect their earnings. Thus, economists would expect that, if the reduction in earnings from dropping out of school is minimal, dropout rates will be high. As the loss of earnings for dropouts grows, however, the dropout rate should decrease. This paper summarizes an attempt to see if these predicted effects actually occur by looking at changes observed in dropout rates in some areas of Kentucky in the 1970s and 1980s.

The 1973 OPEC oil embargo caused a huge increase in the price of coal which, in turn, greatly expanded the demand for workers in the coal industry. Because many of the jobs in the coal industry require little in the way of formal schooling, this sudden change greatly affected the relative earnings of high school graduates and dropouts in a very short time.

Due to the oil embargo, Kentucky areas with coal experienced rising employment and earnings while other areas within relatively short distances suffered the declines in economic activity experienced by the overall economy as energy prices soared. As the oil prices declined, the demand for coal also declined, causing a subsequent bust in the coal market in the 1980s. This reversed the gains in employment and earnings experienced in the coal-producing regions during the 1970s.

The increases in coal prices in the 1970s were large by any standard. The real price of coal increased 44 percent between July 1973 and July 1974, and then remained relatively stable until about 1978, when it began a gradual decline through the 1980s and 1990s. The large upswing in coal prices had a major impact on Kentucky's economy. In 1972, mining earnings accounted for only 4.2 percent of the earnings of all Kentuckians, but by 1980 mining accounted for 9.4 percent of earnings. The economic benefits of the coal boom, however, were not spread evenly across the Commonwealth. Only 52 of Kentucky's 120 counties have coal reserves and, among those with reserves, there is great variation in the amount. Unfortunately for Kentucky, the coal bust that followed was equally sharp. Between 1982 and 1992, there was an 82 percent reduction in the number of coal miners in Kentucky.[1]

[1] Kentucky Coal Marketing and Export Council, Cabinet for Economic Development, and Kentucky Coal Association. *Kentucky Coal Facts 1993.*



As earnings in the coal industry fluctuated, so did high school enrollments in counties providing mining labor. Figure 9.1 provides a clearer view of the impact of the coal boom on high school enrollments. It depicts the rates of change between 1972 and 1982 in high school enrollments, enrollments in grades 5 through 8, and in population, for Pike County, Kentucky. Pike County is the largest coal-producing county in eastern Kentucky, with a population of 72.5 thousand people in the 1990 Census. Two features of the graph stand out. First, the change in population and the change in pre-high school enrollment track one another reasonably well. Second, the change in high school enrollments almost always moves in the opposite direction of changes in population: As population increased, high school enrollments decreased, and vise versa. This strongly suggests more and more students were not completing high school during the coal boom, but were dropping out to take jobs in the coal, and other industries, that were expanding at the time. The coal industry does not generally require its workers to have much formal schooling. As a result, the coal shock increased the earnings of high school dropouts relative to high school graduates, which caused a decline in high school enrollments.

Further evidence comes from estimating the effect of changes in earnings on changes in high school enrollment. Changes in earnings were estimated using data from the Bureau of Economic Analysis' (BEA) Regional Economic Information System for 1969 through 1993. Enrollment data was taken from various sources within the Department of Education. The estimate made with this data indicates that a 10 percent increase in earnings within a county reduces high school enrollments by about 2.5 percent. Thus, high school enrollments seem fairly sensitive to the opportunities for unschooled workers in the surrounding area.

If the coal boom reduced the incentive for some students to finish high school, then the coal bust in the 1980s should have increased the incentive to finish. Data from the Current Population Survey shows that, during the 1980s, there was a fundamental shift in the distribution of earnings in the United States. Workers who had relatively more education received much higher real wages, while workers with relatively little education saw large reductions in their real wages. It seems reasonable to expect that the large change in relative earnings affected the incentives students had to attend school.

TABLE 9.1
Relative Earnings of Kentucky Males Aged 25 to 55
Current Population Surveys, 1980 and 1990

	1980	1990
Earnings of those who did not attend high school relative to high school graduate	-27.8 %	-33.8 %
Earnings of high school dropouts relative to high school graduated	-17.3	-15.9
Earnings of those who attended, but did not graduate, from college relative to high school graduates	14.6	12.3
Earnings of college graduates relative to high school graduates	32.2	59.5
Earnings of graduate degree recipients relative to high school graduates	22.5	63.7

Notes: Data from the National Bureau of Economic Research's outgoing rotation CD. Estimates are from a regression that includes controls for race, marital status, potential experience, and time of interview. There are 1800 observations.

Estimates for Kentucky males between the ages of 25 and 55, given in the first column of Table 9.1, indicate that, in 1980, high school dropouts earned about 17 percent less than those who completed high school. Those who completed college earned about 32 percent more than high school graduates. The results for 1990, in the second column of Table 9.1, show a remarkable change. By 1990, those who completed college earned nearly 60 percent more than those who completed high school. Thus, Kentucky seems to have exhibited much the same patterns of earnings as the United States as a whole.

The results in Table 9.1 also indicate that wages of dropouts relative to high school graduates did not change much over the decade. While in 1980 dropouts earned 17 percent less than those who completed high school, they earned only 16 percent less than high school graduates in 1990, although this difference is not statistically significant. Thus, the 1980s provided little change in the incentive to complete high school. The wages of high school graduates declined in the 1970s and 1980s while the earnings of college graduates have increased.[2] Thus, the incentives to attend college have increased, but not the incentive to complete high school.

Implications for the Future

The change in relative earnings during the 1980s appears to be continuing in the 1990s. Many of the jobs in the past, such as farming and mining, required little in the way of formal education. As Kentucky's economy changes, however, its labor market is reacting. Several industries are growing as we move from our traditional agricultural economy, to one more concentrated in manufacturing and service. Jobs in the manufacturing and service industries generally require more formal education. Growth in these industries increases the returns to finishing high school and to pursuing higher education. As employers demand workers with greater skills, Kentucky should see reductions in the dropout rate. In addition, more students will pursue higher education. The Bureau of Economic Analysis estimates past—and projects future—employment and earnings by industry. These estimates appear in Tables 9.2 and 9.3. As the estimates show, the structure of Kentucky's economy and, therefore, the needs of its employers, are changing.

[2] See Katz, L.F., Murphy, K.M. (1992, February). Changes in relative wages 1963-1987: Supply and demand factors. *Quarterly Journal of Economics, 107*, 35-78.

TABLE 9.2
Number of Jobs by Industry in Kentucky (in Thousands)

	1989	1990	1991	1992	1993	1998	2000	2005
Farm	127	125	119	122	119	118	117	115
Agricultural Services	17	19	19	19	19	23	24	27
Coal Mining	31	32	29	26	25	-	19	17
Other Mining	8	8	7	7	7	27	7	6
Construction	99	101	99	106	110	119	120	125
Manufacturing	291	295	289	293	303	312	314	217
Transport & Utilities	91	96	97	97	100	107	109	115
Wholesale & Retail	397	404	405	415	427	462	469	491
F.I.R.E.	95	97	98	97	98	103	107	111
Services	410	436	447	463	481	546	571	625
Government	298	301	306	317	316	331	335	345
All-Industry Total	1863	1913	1916	1961	2003	2146	2191	2295

Note: The numbers above represent the number of full and part time jobs rather than the number of people. An individual who works two jobs will be counted for each job.
Source: Bureau of Economic Analysis Regional Projections to 2045: Volume 1, States.

TABLE 9.3
Average Annual Earnings by Industry in Kentucky (in Dollars)

	1989	1990	1991	1992	1993	1998	2000	2005
Farm	7,372	7,022	7,363	8,342	7,483	8,403	9,142	9,852
Agricultural Services	10,706	10,389	10,591	10,765	10,764	11,342	11,496	12,074
Coal Mining	38,684	38,491	38,425	39,307	39,130	-	-	-
Other Mining	33,655	33,736	33,374	34,307	34,112	36,018	35,969	37,303
Construction	18,914	18,300	17,412	17,359	17,642	18,352	18,483	18,934
Manufacturing	25,646	25,600	25,212	26,098	25,743	27,231	27,500	28,798
Transport & Utilities	25,404	24,981	25,126	26,056	25,721	26,212	26,126	26,660
Wholesale & Retail	12,978	12,759	12,757	12,891	12,861	13,220	13,253	13,515
F.I.R.E.	15,435	15,260	15,081	16,601	17,503	18,885	19,731	21,194
Services	15,431	15,283	15,341	15,847	15,192	16,687	17,066	17,862
Government	18,873	19,026	19,567	19.934	19,777	20,558	20,905	21,635
Average Annual Earnings for State	17,510	17,360	17,339	17,834	17,754	18,476	18,725	19,400

Note: The numbers above represent the number of full and part time jobs rather than the number of people. An individual who works two jobs will be counted for each job.
Source: Bureau of Economic Analysis Regional Projections to 2045: Volume 1, States.

Mining has traditionally been a high paying industry in Kentucky. In 1993, coal miners were paid an average of $39,000 per year. Over the past few years, however, both wages and employment in the mining sector have decreased. This trend is expected to continue into the future, assuming no shocks to the economy occur that would raise the price of coal.

From 1989 to 1993, services and wholesale and retail trade have shown relatively large growth in employment. Annual earnings in these sectors have seen little growth over the same time period. While little growth is expected in earnings per employee, the number of workers employed in these industries are expected to continue to grow. Currently, services account for approximately 24 percent of the jobs in Kentucky. It is projected that the service sector will grow to account for 26 percent of Kentucky jobs by the year 2000.

Manufacturing accounts for approximately 15 percent of Kentucky jobs. Projections show that growth in manufacturing should be enough to maintain its share of Kentucky jobs. Manufacturing jobs are relatively high paying jobs, averaging just under $26,000 per year.

Other industries, such as construction, transportation, utilities, and finance, will continue to show moderate growth. Farm employment has fluctuated in past years with a general downward trend that is likely to continue into the future.

Earnings available in the job market appear to play a significant role in determining the amount of education people desire. Historically, when coal jobs paid high wages, many students in the local area dropped out of school. The benefits to graduation were not high enough to keep those students in school. The Kentucky economy, however, appears to be moving to industries and jobs that require higher levels of education. As these jobs comprise a larger share of available employment opportunities, students will find greater rewards from educational attainment.

Conclusions

Obviously, most policymakers would prefer students to stay in school. Analysis suggests that the earnings of high school graduates relative to high school dropouts are of fundamental importance in determining the student's decision about whether to drop out. With the coal boom of the 1970s, as increased value of coal increased the wages of coal miners and mining jobs were plentiful, there was a reduction in the number of students enrolling in high school in the regions with coal to mine. As the coal industry then did not generally require workers with much formal schooling, these higher wages provided an incentive to drop out of high school. This reduction in high school enrollments occurred despite rapid population growth in the areas of Kentucky with coal reserves.

In 1990, Kentucky began a major education reform initiative: The Kentucky Educational Reform Act (KERA). The analysis has two important, but related, implications for KERA. First, it is important to recognize that general economic conditions affect the decision to complete high school. Thus, KERA could be remarkably successful, but high school enrollments could decline if the earnings opportunities for high school graduates continue to decline as they have since the middle of the 1970s. Second, if KERA is going to succeed in reducing the number of dropouts in Kentucky, it is important that there be an improvement in the skills of high school students not attending college. As employment opportunities change, the Kentucky secondary school system must provide high school graduates with the skills future employers will require.

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KENTUCKY OCCUPATIONAL OUTLOOK TO 2005

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February 1997

Workforce Development Cabinet--Equal Education and Employment Opportunities M/F/D

HIGHLIGHTS

- The Kentucky economy is expected to create more than 300,000 new jobs from 1994 through 2005. An additional 428,000 job vacancies in Kentucky will likely occur as workers leave or separate from various occupations. Such job vacancies become available through retirements, promotions or transfers within occupations.

- Kentucky jobs are expected to grow about 17 percent from 1994 through 2005. The nation is expected to grow about 14 percent in jobs over this period.

- Employment will grow in occupations requiring all levels of education and training. The contradictory beliefs that all growing occupations require little education or all require high levels of training are both incorrect. In truth, jobs requiring greater education and training clearly dominate those occupations that are growing the fastest and also have the highest pay rates.

- Employment in occupations requiring education and training beyond high school will increase in the share of total employment between 1994 and 2005. Those occupations which do not require additional education or training beyond high school will decline in total share.

- Education will continue to be most critical to one's success in the workplace of the future.

- Executive, administrative and managerial employment in Kentucky is projected to grow approximately 20 percent from 1994 through 2005, slightly outpacing the nation's growth rate.

- Professional, paraprofessional, and technical occupations as a group is expected to grow approximately 25 percent over the 1994-2005 period. This growth rate is slightly less than the growth in service occupations making it the second fastest-growing sector in the state.

- Professional, paraprofessional, and technical occupations as a group, however, will have more new job openings through 2005 than any other major group of occupations.

- Health occupations will increase by nearly 42,000 jobs over the 1994-2005 period, in part because of the need to care for aging Kentuckians with a longer life expectancy.

- Employment in computer, mathematical and related occupations will grow the fastest of all occupational groups in Kentucky through 2005.

- There were approximately 88,000 teachers, librarians and counselors in Kentucky in 1994. They represent almost 30 percent of the employment in professional, paraprofessional and technical occupations and over 5 percent of total Kentucky employment. Because of the large number of teaching jobs in Kentucky this group of occupations will provide the most job openings of any of the professional, paraprofessional and technical group of occupations.

- Marketing and sales occupations as a group is expected to grow rapidly between 1994 and 2005, with securities and financial services, sales and travel agents leading the growth.

- Administrative support occupations, including clerical, as a group is likely to grow about 10 percent through 2005, the slowest of the major occupational divisions. Technological advances in office procedures will likely slow the growth in these fields.

- Service occupations will grow the fastest of any group averaging about 26 percent over the 1994-2005 period with health service workers and protective service workers growing rapidly.

- Generally, agriculture, forestry, fishing and related occupations will likely continue its decline over the 1994 to 2005 period but at a slower pace. Farmers and farm workers, excluding agricultural services, account for almost all of the decline. Increased mechanization, rising cost of farming and the trends toward larger, more efficient farms are all factors contributing to their decline.

- Precision production, craft and repair occupations are expected to grow slowly over the projected period; however, in Kentucky this major group of jobs is expected to increase at twice the national growth rate.

- Mechanics, installers and repairers as a group will grow the fastest within the major division of precision production, craft and repair occupations.

- The largest occupational division in Kentucky is the operatives, fabricators and laborers with 341,730 workers employed in 1994.

- Operatives, fabricators and laborers will grow slowly from 1994 to 2005. Still, in Kentucky this major division of occupations is projected to grow at nearly three times the national rate.

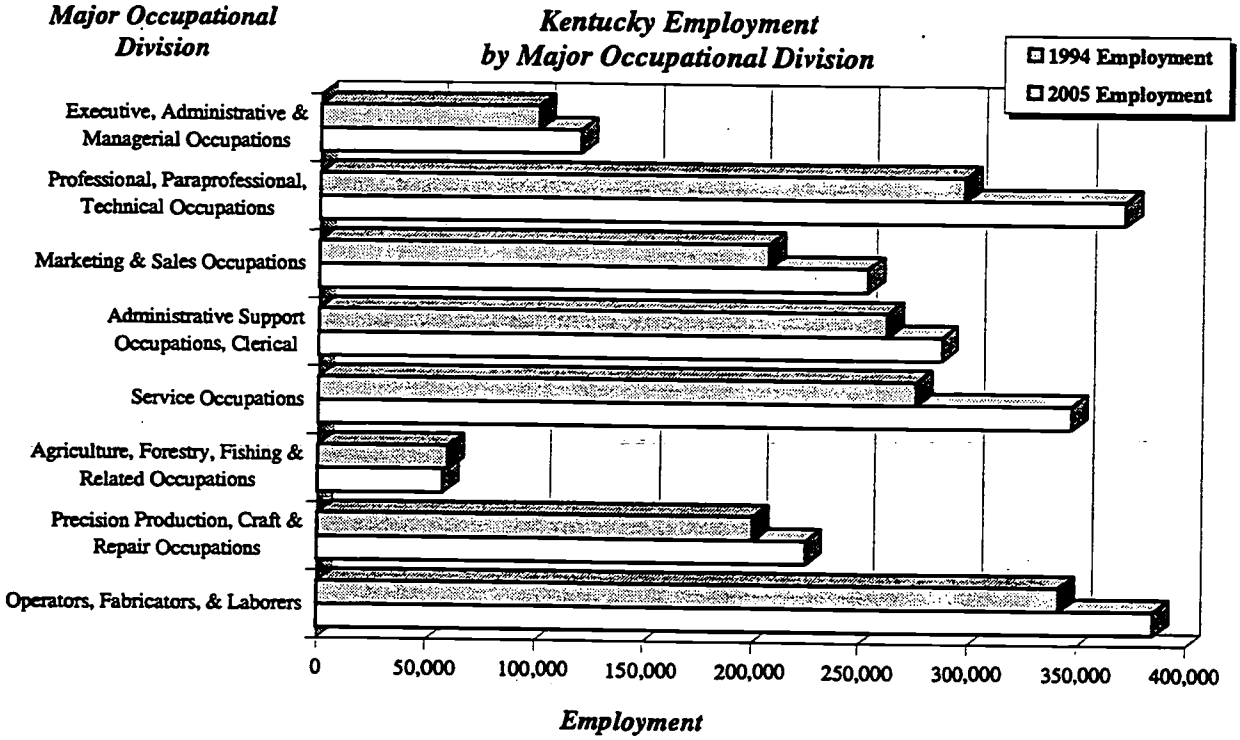
KENTUCKY OCCUPATIONAL OUTLOOK TO 2005

The future is never certain but it can be very useful to look ahead and try to determine the likely employment outlook for the Kentucky economy through the year 2005. Labor market conditions in Kentucky have been favorable for employment in recent years, and the job outlook projects a continuation of that trend.

The Kentucky economy is expected to grow about 17 percent and create over 300,000 new jobs from 1994 through 2005. An additional 428,000 job vacancies will likely occur as workers leave or separate from various occupations in Kentucky. Such job vacancies become available from retirements, promotions or transfers within occupations. This means the Kentucky economy will generate over 66,000 jobs per year through 2005 which will have to be filled by newly educated and trained workers.

The 1994 through 2005 employment change will vary greatly among the 620 occupations presented in the Kentucky Occupational Outlook and Job Openings table on pages 19-39. Kentucky's employment structure, therefore, will change considerably through the year 2005. The structure of the major occupational divisions, however, will change moderately from 1994 to 2005 (see chart 1).

CHART 1



Source: Kentucky Workforce Development Cabinet, Department for Employment Services, Research and Statistics Branch.

Nearly fifty percent of the new jobs created from 1994 through 2005 will be in two major occupational divisions: professional, paraprofessional and technical; and services. Employment in professional, paraprofessional, and technical occupations overall will grow about 25 percent and service occupations about 26 percent from 1994 to 2005. The professional, paraprofessional and technical occupations will produce the most new jobs of all sectors. New service jobs will rank second. Within these two major sectors, health care and computer-related occupations will grow very rapidly through 2005. New jobs in personal service and protective service occupations will also increase at a very fast pace.

Marketing and sales; as well as executive, administrative and managerial occupations overall will grow faster than the average rate through 2005. Job growth in both major occupational divisions in Kentucky is projected to outpace the nation through 2005. Marketing and sales occupations will average about 22 percent growth from 1994 through 2005 in Kentucky; the nation is expected to grow 18 percent. The Kentucky rate of growth in executive, administrative and managerial occupations will be about 20 percent while the national rate is about 17 percent from 1994 through 2005.

Jobs in administrative support occupations, including clerical, will grow at a slow 10 percent rate from 1994 through 2005. Advances in technology and office procedures will be responsible for the slow growth rate. Agriculture, forestry, fishing and related occupations as a major division is expected to continue its decline but at a reduced pace of less than four percent over the 1994 to 2005 period. Farmers and farm workers account for almost all of the decline in this major division. Increased mechanization, rising cost of farming and the trends toward larger, more efficient farms are all factors contributing to their decline.

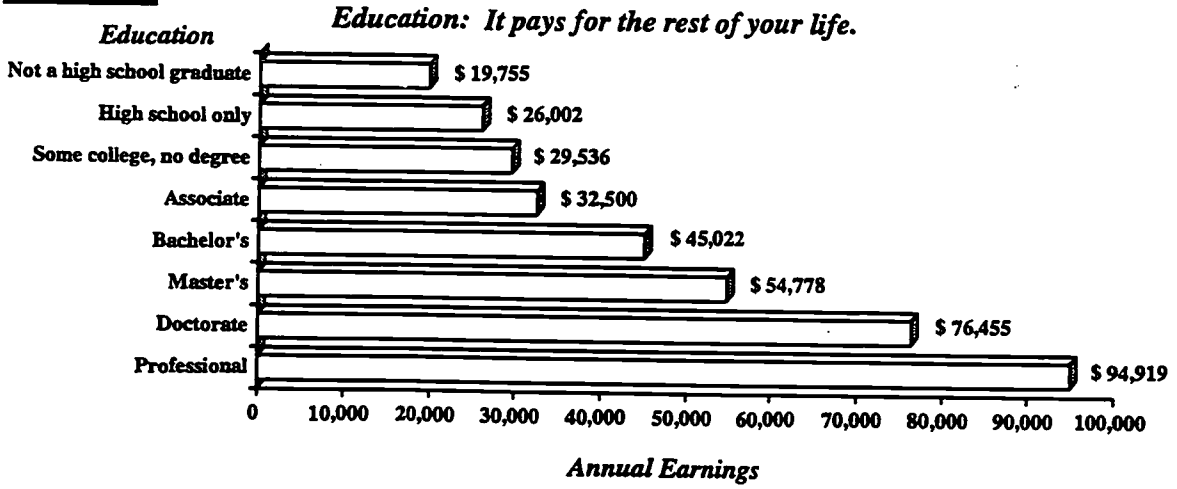
Precision production, craft and repair occupations; as well as operators, fabricators, and laborers will grow slowly over the projected period. Still, new jobs in precision production, craft and repair occupations in Kentucky are anticipated to increase at twice the national growth rate from 1994 through 2005. Operators, fabricators and laborers in Kentucky will grow nearly three times the national rate. These faster growth rates reflect the strength of Kentucky's manufacturing and construction industries which employ many of these workers.

EDUCATION AND EARNINGS

The types of jobs in the future workplace are determined by the market place, but education will continue to be most critical to one's success in the workplace of the future. The requirements in many of the lesser skilled jobs in the marketplace will remain unchanged. Their skill requirements are low and will remain so, however, the education and job requirements in many of the higher skilled jobs will expand and change significantly. The better educated and trained you become to meet these changes, the more job opportunities and higher pay your qualifications will generate.

Education pays the rest of your life. Traditionally, the more education you have, the more money you earn. In fact, the value of education has clearly increased during the past 20 years. Not every person who holds an advanced degree reports a high income and many people who have left school early have high earnings today. There is a clear relationship, however, between the amount of schooling and subsequent earnings (see chart 2).

CHART 2



Source: US Department of Commerce, Bureau of the Census, mean annual earnings for full-time workers age 18 and over by highest level of education, 1994.

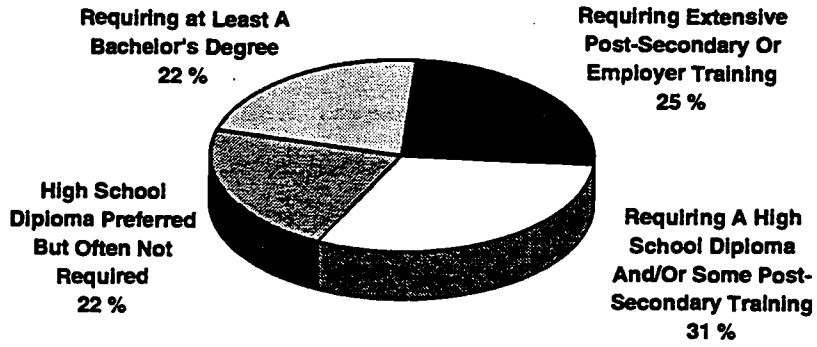
EDUCATION AND TRAINING

This study looks at occupations by levels of education and training generally required to gain employment in the field. The four broad educational requirements used to organize the occupations are as follows: bachelor's degree or more; extensive post-secondary (less than a bachelor's degree) and/or employer training; high school diploma and/or some post-secondary training; and high school diploma preferred but often not required.

Employment will grow in occupations requiring all levels of education and training. Kentucky's job growth through 2005 when allocated among the four education levels will range from 22 to 31 percent (see chart 3). Employment in occupations requiring education and training beyond high school will increase in the share of total employment between 1994 and 2005. Those occupations which do not require additional education or training beyond high school will decline in total share.

CHART 3

Percent of Total Kentucky Job Growth by Education or Training 1994-2005



Source: Kentucky Workforce Development Cabinet, Department for Employment Services, Research and Statistics Branch.

CHARTING THE OCCUPATIONAL OUTLOOK

The ten charts on the following pages focus on the occupations in Kentucky with the most annual job openings, fastest-growing employment and significant employment decline from 1994 through 2005.

Each chart ranks the top 25 occupations, from highest to lowest, according to the number of annual job openings or employment change expressed as a percentage. In addition, comments beside the charts explain some of the occupational employment changes and factors affecting these changes.

The first eight charts organize the occupations by the levels of education outlined above. Charts 4 and 5 present Kentucky occupations which usually require at least a bachelor's degree. Charts 6 and 7 display Kentucky occupations which require extensive post-secondary and/or employer training. Charts 8 and 9 present Kentucky occupations which require a high school diploma and/or some post-secondary education. Kentucky occupations for which a high school diploma is preferred but often not required are shown in Charts 10 and 11.

The last two, Charts 12 and 13, identify Kentucky occupations for which employment is declining significantly.

CHART 12

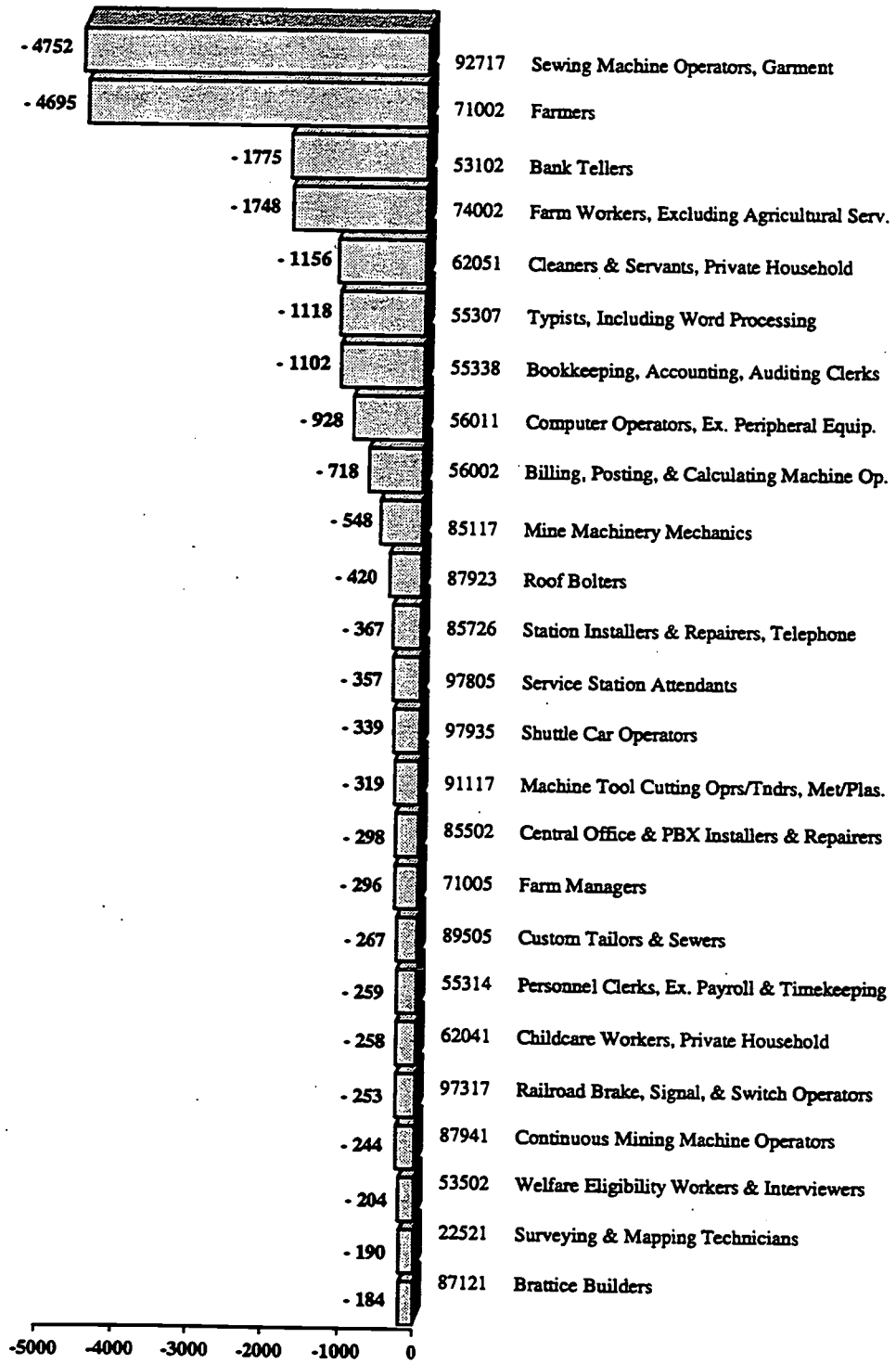
Twenty-Five Kentucky Occupations Losing The Largest Number Of Jobs, 1994 To 2005

Declining employment is generally a sign that the occupation does not have a favorable job outlook. The number of workers who leave or separate from an occupation, however, is generally larger than the declines in employment. Some positions, therefore, do become available to job seekers.

Automation as well as changes in technology or the demand for products/services are some reasons that may explain why an occupation is declining in employment.

Bank tellers, for example, are projected to decline because new technology is expected to automate banking transactions. Advances in office automation will also have a significant effect on many administrative support and clerical occupations.

Several of the occupations in this chart are in Kentucky's farming and mining industries where fewer workers are producing more.



Source: Kentucky Workforce Development Cabinet, Department for Employment Services, Research & Statistics Branch.

Adult Literacy in Kentucky

Kentucky Department for Adult Education and Literacy
Cabinet for Workforce Development

A Report on the
Kentucky Adult Literacy Survey

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Executive Summary

The Kentucky Department for Adult Education and Literacy, Cabinet for Workforce Development, commissioned the Kentucky Adult Literacy Survey to obtain accurate information about literacy levels of Kentucky's adult population. The survey was designed to determine literacy levels, provide information about their distribution in the population, and analyze the determinants and consequences of literacy. Information from the survey will be used to plan programs to improve the literacy levels of the population and foster the economic development of the Commonwealth.

The literacy survey provides information about

- literacy proficiencies of the population,
- the characteristics of those who lack literacy skills, and
- the distribution of literacy problems around the state.

This information will facilitate decision making about

- the level of funding required to raise the literacy levels of the population,
- segments of the population to target for services, and
- how to allocate funding to produce the greatest impact.

Support for these literacy development activities will

- allow citizens to improve their economic well-being,
- enhance Kentucky's appeal to enterprises seeking a highly skilled workforce,
- foster higher levels of active citizenship, and
- enable more Kentucky parents to properly support the education of their children.

The Meaning of Literacy

The Kentucky Adult Literacy Survey is based on the National Adult Literacy Survey (NALS). Both surveys used this definition of literacy, which recognizes that literacy has several dimensions and varies in degree:

> *Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.*

The literacy instrument employed in the study captures three dimensions of literacy: prose, document, and quantitative. Prose literacy involves the knowledge and skill to understand and use information that is contained in prose format, such as news stories, reports, books, and poems. Document literacy is the knowledge and skill to find and use information in documents like job applications, maps, schedules, and payroll forms. Quantitative literacy is the knowledge and skill to locate numbers contained in printed material and apply arithmetic operations either alone or sequentially to do things like balance a check book, complete an order form, figure the interest from a loan application, or similar activities.

Literacy is not an either/or proposition. People possess it in varying degrees, and the degree of an individual's literacy proficiency can change over time. Recognizing this, the Kentucky Adult Literacy Survey recognizes five general levels of literacy proficiency along each of the dimensions: prose, document, and quantitative.

Individuals at Level 1 have no or minimal literacy skills. They may not be able to read at all or they may be able to locate only a single piece of information in a simple text. As the complexity of tasks that the individual can complete increases, so does the level of literacy. At Level 5, the highest level of literacy proficiency, individuals are able to extract and use complex information for various purposes.

The Literacy Survey

The Martin School of Public Policy and Administration at the University of Kentucky completed interviews with 1,492 citizens of Kentucky between the ages of 16 and 65 to determine literacy levels in the state. The respondents were selected through a

random sample stratified by region to produce a statewide sample drawn from five geographic regions of the state: Northern Kentucky, the Bluegrass region, Eastern Kentucky, the Louisville area, and Western Kentucky. The interviews were conducted by trained interviewers in the subjects' homes. The interviews lasted an hour each, on average. Each subject was asked to complete a literacy skills assessment instrument and respond to a series of questions about background characteristics.

The Kentucky Adult Literacy Survey provides useful information about the literacy skills of Kentucky's adult population. The survey provides detailed information about the literacy levels of the population and the distribution of literacy skills among population groups and across the state.

The Kentucky Adult Literacy Survey (KALS) is based on the same instruments that were used to measure literacy across the United States in the National Adult Literacy Survey. The instruments measure literacy along three dimensions: prose, document, and quantitative. The data were prepared by Educational Testing Service and analyzed by the Martin School.

The survey provides average literacy proficiencies along the three dimensions for the adult population, as well as for subgroups of the population. It also tells us what percentage of Kentuckians perform at each of five levels of literacy proficiency. Scores on the three dimensions range from 0 to 500. Level 1 encompasses scores from 0 to 225; Level 2 is 226 to 275; Level 3 is 276 to 325; Level 4 is 326 to 375; and Level 5 is 376 to 500.

The Literacy Skills of Kentucky Adults

What do the numbers tell us? First of all, they tell us that the average literacy levels of Kentucky's population are competitive with literacy levels of all Americans and of residents of the Southeast United States.

According to the Kentucky Adult Literacy Survey and the National Adult Literacy Survey (which measured the Southeast as well as the nation), the average prose proficiency of Kentucky adults is 286, compared to 267 for the Southeast and 272 for the nation. The average document proficiency in Kentucky is 284, compared to 262 in the

Southeast and 267 in the nation. The average quantitative literacy proficiency is 280 in Kentucky, 265 in the Southeast, and 271 for the country as a whole.

This translates into more Kentuckians performing at high levels of proficiency compared to adults in the Southeast or the nation. Fifty-nine percent of Kentuckians perform at the three highest levels of prose proficiency, compared with 48 percent in the Southeast and 52 percent nationwide. Fifty-eight percent of Kentuckians perform at the three highest levels of document proficiency, compared to 45 percent in the Southeast and 49 percent nationwide. And 56 percent of Kentuckians score at the three highest levels in quantitative proficiency, compared to 48 percent in the Southeast and 52 percent nationwide.

Part of the reason that average literacy levels in Kentucky as measured by the KALS exceed those of the nation and Southeast as measured by the NALS is that the national survey included senior citizens, while the Kentucky survey did not. Kentucky surveyed only those ages 16-64 because it wanted to focus its survey on the population generally considered to be working age.

When only the population ages 16-64 is examined, Kentucky's average literacy proficiencies still exceed national averages, but by smaller margins. In prose proficiency, the national average for people ages 16-64 is 280, while the Kentucky average is 286. In document proficiency, the national average for people ages 16-64 is 276, and the state average is 285. In quantitative proficiency, the national average for people ages 16-64 is 279, and the Kentucky average is 280.

The numbers found in the Kentucky Adult Literacy Survey generally should be good news to those whose job it is to promote Kentucky and its work force to employers around the globe. But the numbers also mean that Kentucky faces significant challenges.

For example, even though Kentucky's average literacy proficiency is higher than that of the Southeast and of the nation, 14 percent of Kentucky adults have a prose literacy proficiency at Level 1. Another 26 percent of Kentucky adults are at Level 2. For document literacy, 13 percent of Kentucky adults are at Level 1, and 29 percent at Level 2. And 16 percent of Kentucky adults have a quantitative literacy proficiency at Level 1, with another 28 percent at Level 2.

Those numbers mean that about 14 percent of Kentucky adults on average have no or virtually no literacy skills. In other words, about 340,000 Kentuckians lack the minimal skills needed to function effectively in the marketplace, the workplace, the home and the community. Another 656,000 on average have low levels of skills that are likely to impede their personal advancement and the development of the state's economy.

Those numbers illustrate our challenges, and the Kentucky Adult Literacy Survey will help the Department for Adult Education and Literacy determine how best to meet those challenges. But it is encouraging to note that Kentucky has fewer residents performing at the lowest literacy levels than do the nation and the Southeast. For example, 14 percent of Kentuckians are at Level 1 of prose proficiency, compared to 23 percent in the Southeast and 21 percent nationally.

Just as literacy levels vary across the United States, they vary across the regions of Kentucky. Average proficiencies are highest in the Bluegrass region surrounding Lexington and lowest in Eastern Kentucky. Average prose proficiency, for example, is 303 in the Bluegrass and 264 in Eastern Kentucky. On that dimension, the Louisville area is at 294, Northern Kentucky is at 285, and Western Kentucky is at 282.

Educational Attainment, Parental Encouragement and Social Background

The survey reveals that literacy proficiencies are related to educational attainment, parental encouragement and social background.

The effect of education is dramatic. Average prose proficiency ranges from 185 for those with zero to eight years of schooling to 284 for those with a high school diploma to 345 for those with a four-year college degree or more.

Studying for and attaining a general equivalency degree (GED) makes a significant difference. High school dropouts who have not studied for the GED have an average prose proficiency of 201; those who studied for it but did not receive it have an average proficiency of 241; the average for those who have received the GED is 273.

Parental influences are significant. Individuals who were read to by their parents as children, who had their parents' help with homework, and whose parents met with their

teachers and were members of the parent-teacher organization have higher proficiency scores. Children who grew up in homes where there were newspapers, books, magazines, dictionaries, and encyclopedias have higher literacy proficiencies.

Blacks scored lower than whites on the Kentucky survey, just as blacks scored lower than whites on the national survey. The average prose proficiency of whites on the Kentucky survey is 289, compared to 238 for blacks.

Individuals with disabilities, whether physical or mental, have lower proficiency levels than those without disabilities.

There are no differences by gender in the Kentucky survey.

Literacy and Economic Well-Being

Literacy affects the economic well-being of Kentuckians. Individuals who have higher literacy levels experience less unemployment and are more likely to have full-time jobs. Literacy has a significant impact on wages. Kentucky adults who are at prose proficiency Level 1 have median weekly wages of $248, compared to $348 for those at Level 3 and $583 for those at Level 5.

Lower levels of literacy proficiency are associated with higher levels of poverty and welfare dependency. Sixty-five percent of Kentucky adults who are at prose proficiency Level 1 are poor or near poor as defined by the U.S. Census Bureau. This is true for 16 percent at Level 3 and 4 percent at Level 5. In a similar manner, 46 percent of those at prose Level 1 receive public assistance in the form of food stamps, welfare, or Supplemental Security Income. Thirteen percent of those at Level 3 receive public assistance, as do 1 percent of those at Level 5.

Social Involvement, Information Use, and Helping Children Learn

Literacy also affects social involvement, the ways people obtain information, and family relationships. For example, there is a strong relationship between literacy and voter participation. Forty-eight percent of those at prose proficiency Level 1 voted in the past five years, compared to 64 percent of those at Level 3 and 93 percent of those at Level 5.

Across a range of written materials, Kentucky adults with lower literacy

proficiencies make less use of most information resources: letters and memos, reports and articles, reference books, catalogs, directions, diagrams, spreadsheets, and forms. Those who read the newspaper frequently have higher scores than those who seldom or never read it. Those with higher scores read more magazines and books, and make greater use of libraries. They also watch less television.

Eight percent of Kentucky adults never or almost never read to their children under the age of 6. In addition, those with lower literacy levels are less likely to keep newspapers, magazines or books in the home. Thus, they run the risk of discouraging literacy development in their own children.

Literacy Levels in Kentucky

Average Proficiencies and the Distribution of Literacy

The story of literacy in Kentucky begins with a look at literacy proficiency levels. As can be seen in Figure 1, 14 percent of the 2.4 million adult Kentuckians have a prose literacy proficiency at Level 1. Another 26 percent are at Level 2. For document literacy, 13 percent are at Level 1 and 29 percent are at Level 2. And, 16 percent of adult Kentuckians have a quantitative literacy proficiency at Level 1 with another 28 percent at Level 2.

What do these numbers mean? They mean that 40 to 44 percent of the adult population have quite modest, minimal or no functional literacy skills. Those at Level 1, about 14 percent of Kentucky's adult population or 3406,000 people, have extremely limited to no literacy skills. The simplest prose literacy tasks at Level 1 involve reading a relatively short text to locate a single item of information identical to or synonymous with the information given in the question or directive. For example, one task involves reading a simple newspaper article and identifying the sentence containing a requested piece of information, such as the name of the pitcher who won the ball game. Fourteen percent of Kentucky adults perform at this level.

As noted in the National Adult Literacy Survey, prose literacy tasks at Level 2 make slightly greater demands on reading skills, requiring the reader to find a single piece of information in the text while ignoring distracters or plausible but incorrect information. Low-level inferences might be required, or the reader might be required to integrate two pieces of information or compare and contrast easily identifiable information. As an example, one task at the upper end of this level requires the reader to identify exactly what is wrong with an appliance by choosing the most appropriate of four statements describing what is wrong with it. Twenty-six percent of Kentuckians are at this level.

The average prose literacy proficiency in Kentucky is 286. This is at the lower end of Level 3, where 34 percent of Kentuckians are located. Another 25 percent are at either Level 4 or Level 5. Tasks at Prose Level 3 require the reader to make literal or synonymous matches between the text and information given in the task, or to make matches that require low level

inferences. The reader might be asked to integrate information from dense or lengthy text that contains no organizational aids such as headings. For example, one task at level 3 requires the reader to write a letter explaining that an error has been made on a credit card bill. In another example, the reader is required to read a magazine article about an Asian-American woman and identify what she did to help resolve conflicts due to discrimination.

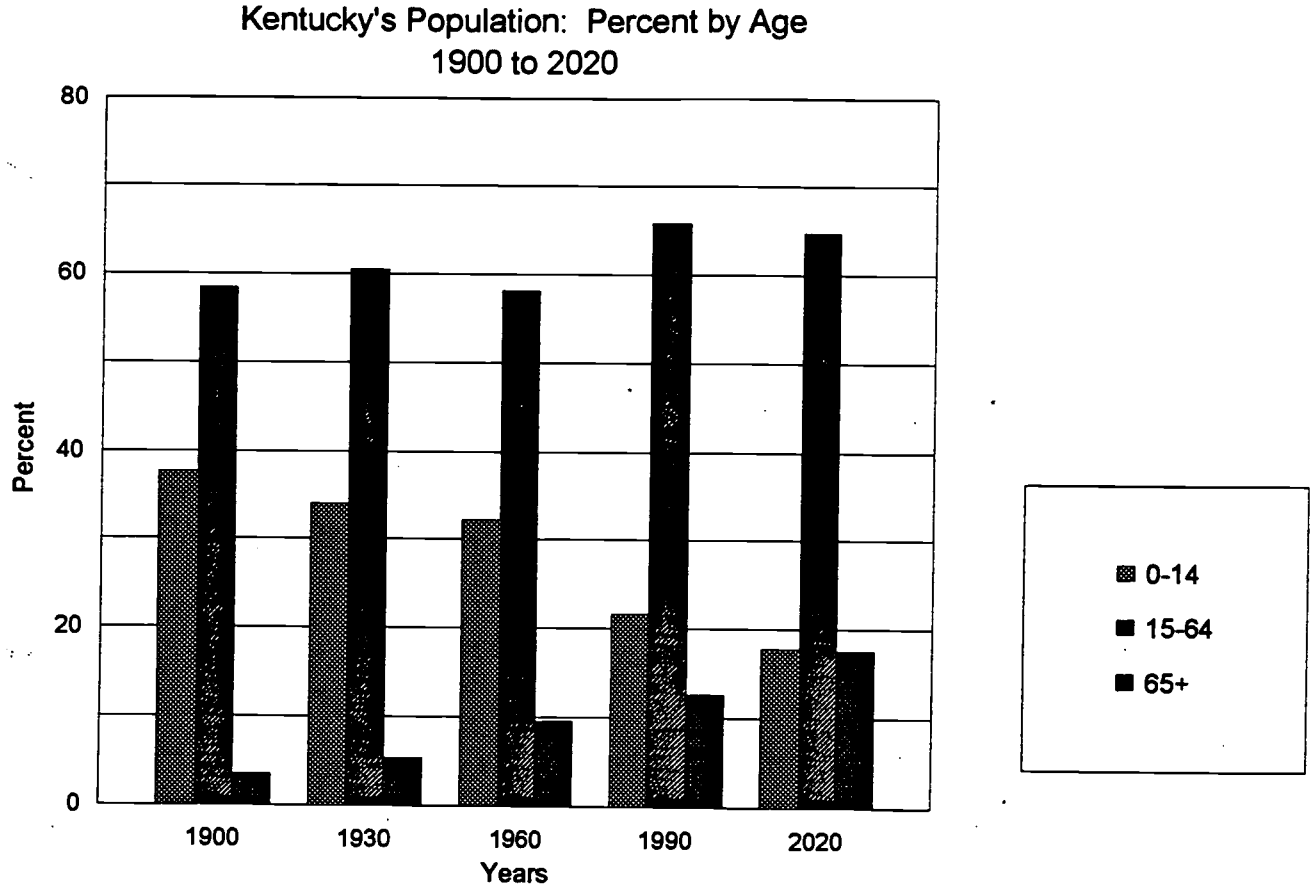
Level 1 document literacy tasks require the reader to either locate a piece of information based on a literal match or enter information from personal knowledge onto a document. It might, for example, involve being able to read the instruction and sign one's name to a Social Security Card. As the National Adult Literacy Survey noted, "Tasks such as this are quite simple, since only one piece of information is required, it is known to the respondent, and there is only one logical place on the document where it may be entered." More complex tasks at this level would require the reader to provide several pieces of information, such as those called for in a section of a job application. Thirteen percent of Kentuckians are at this level.

Document literacy at Level 2 makes somewhat more difficult demands on the reader. It may require matching a single piece of information where distracters are present or where low-level inference is required. It may require integrating information from different parts of a document. One task at this level requires the reader to look at a pay stub and write the gross pay for this year to date. The stub contains both current pay and pay to date and both net pay and gross pay. Twenty-nine percent of adult Kentuckians are at this level.

The average document literacy of Kentucky adults is 284, which is at the lower end of Level 3. Thirty-six percent of Kentucky adults are at this level. Another 22 percent are at Levels 4 and 5. Document literacy at Level 3 involves integrating multiple pieces of information from one or more documents or cycling through rather complex tables or graphs containing information that is not relevant or appropriate to the task. In one example the reader is asked to use a stacked bar graph showing power consumption by source for four years to determine an energy source that will provide more power in the year 2000 than it did in 1971.

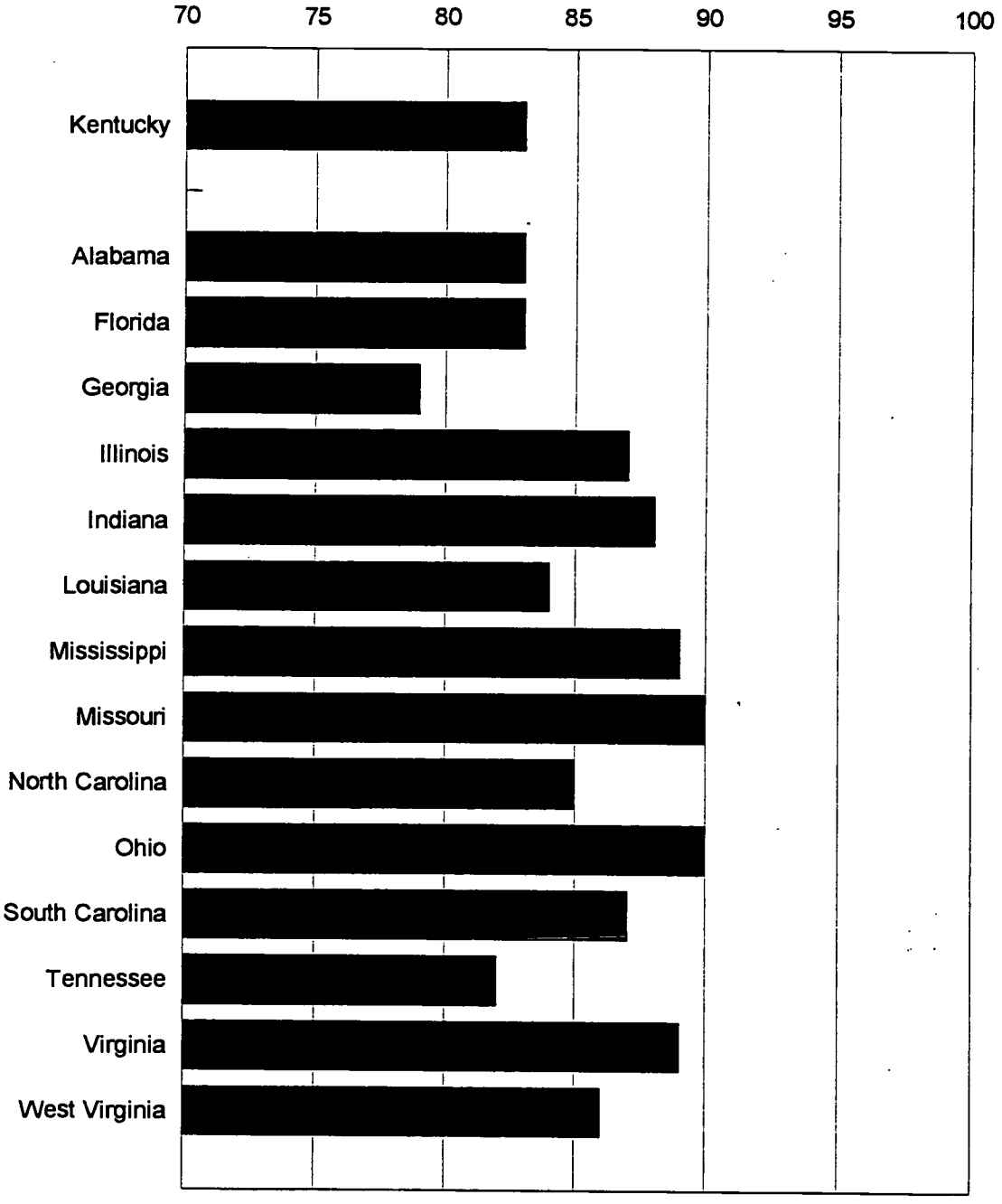
APPENDIX IV

Chapter 2



Source: U.S. Bureau of the Census and How Many Kentuckians, 1995
Kentucky State Data Center (5/96)

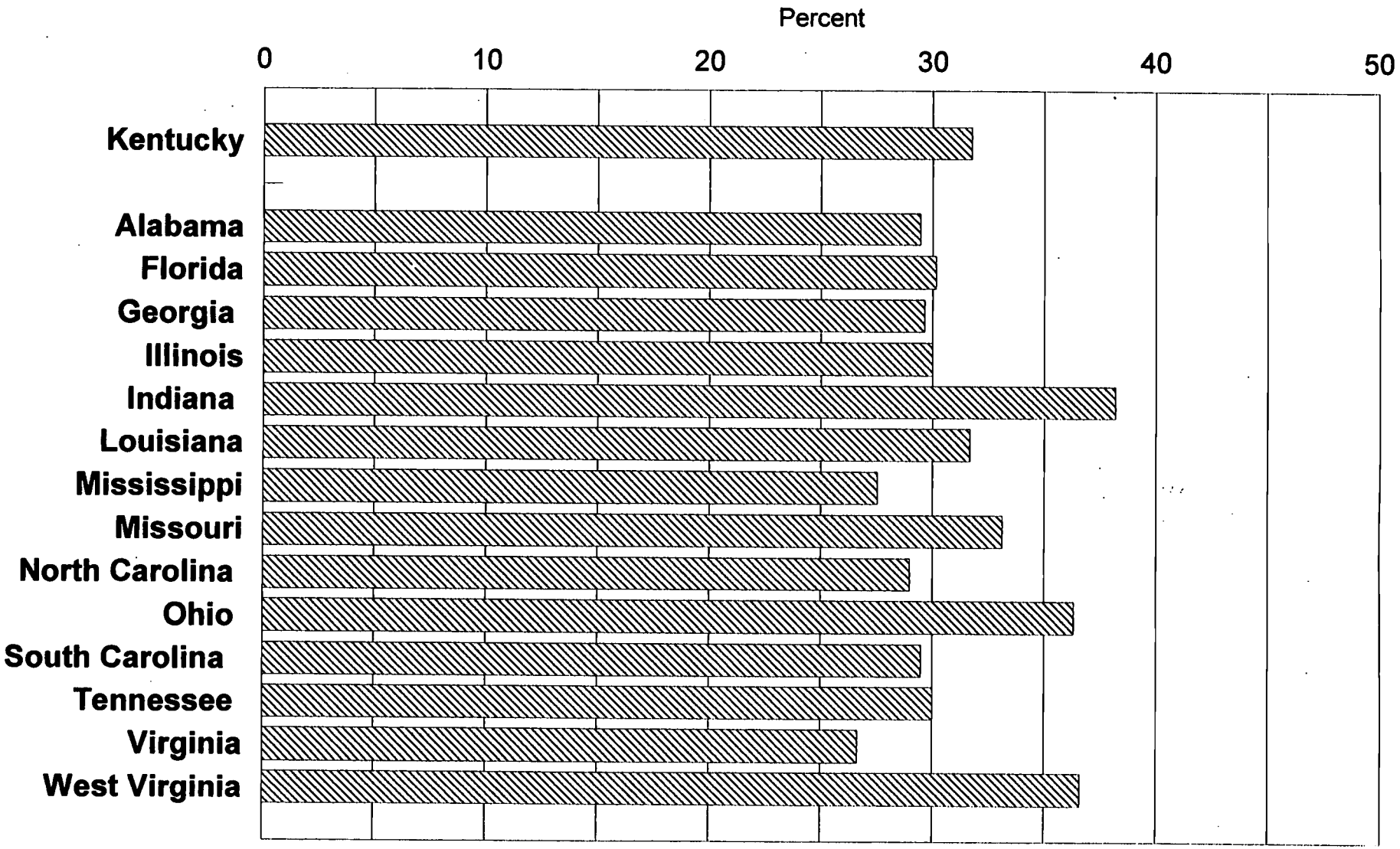
Percentage of All 18-24 Year Olds Who Have a High School Credential 1993



Notes: Does not include those still in high school; Includes traditional high school diploma and alternative credential; uses three-year averages 1992-94).

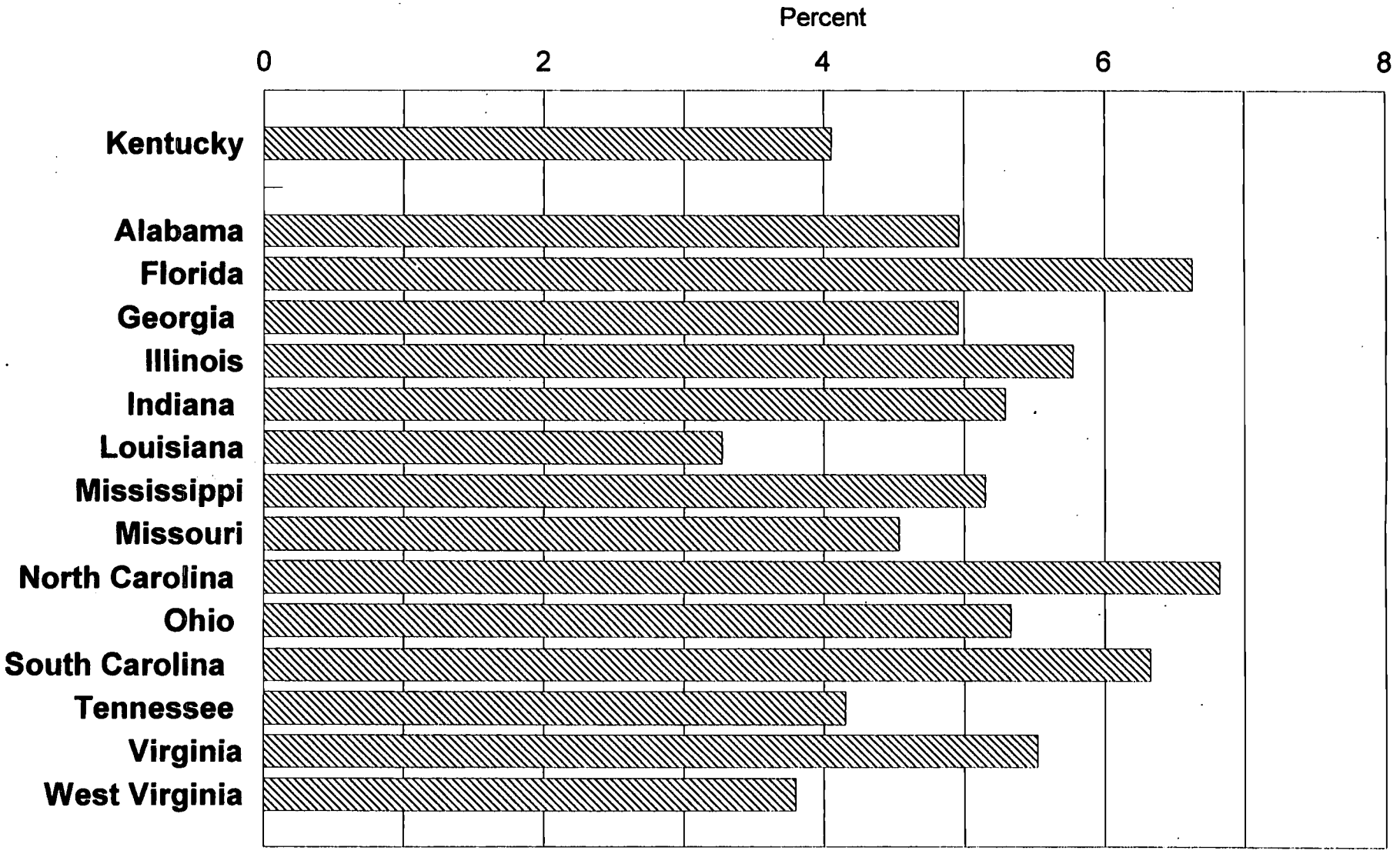
Source: NCES, 1995

Educational Attainment of Adult Population, 1990
High School Diploma



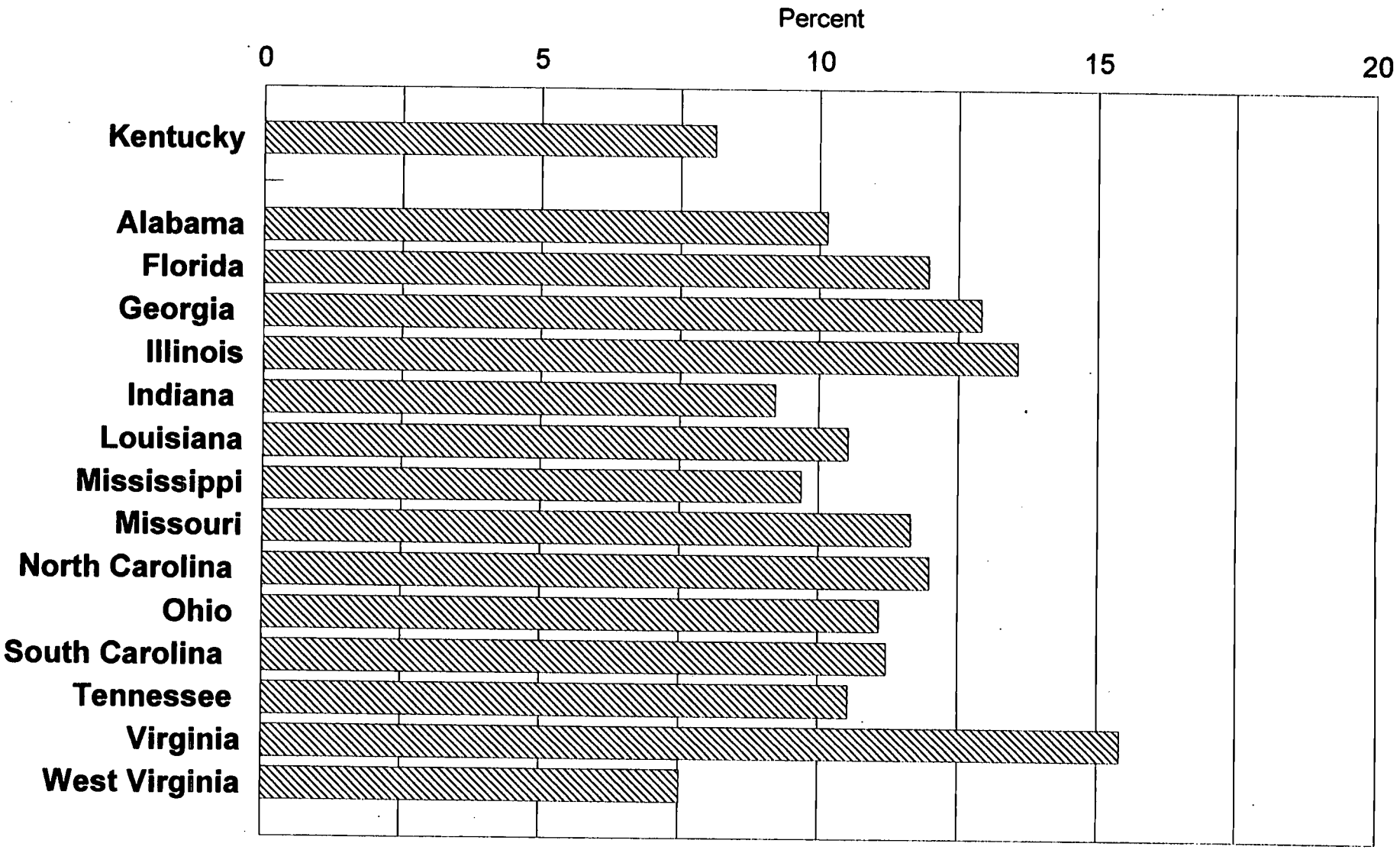
Source: U.S. Census Bureau

Educational Attainment of Adult Population, 1990
Associate Degree



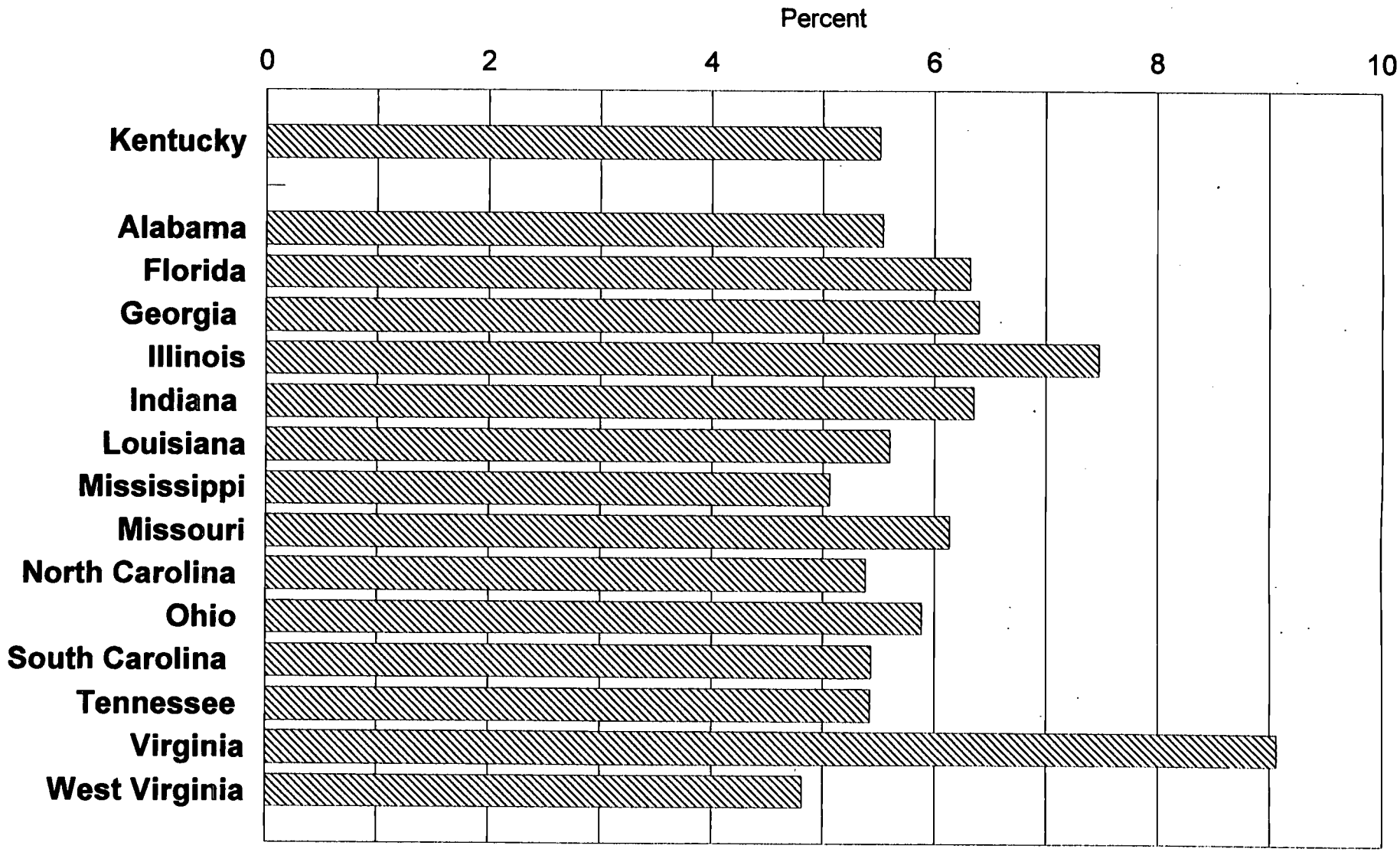
Source: U.S. Census Bureau

Educational Attainment of Adult Population, 1990
Baccalaureate Degree



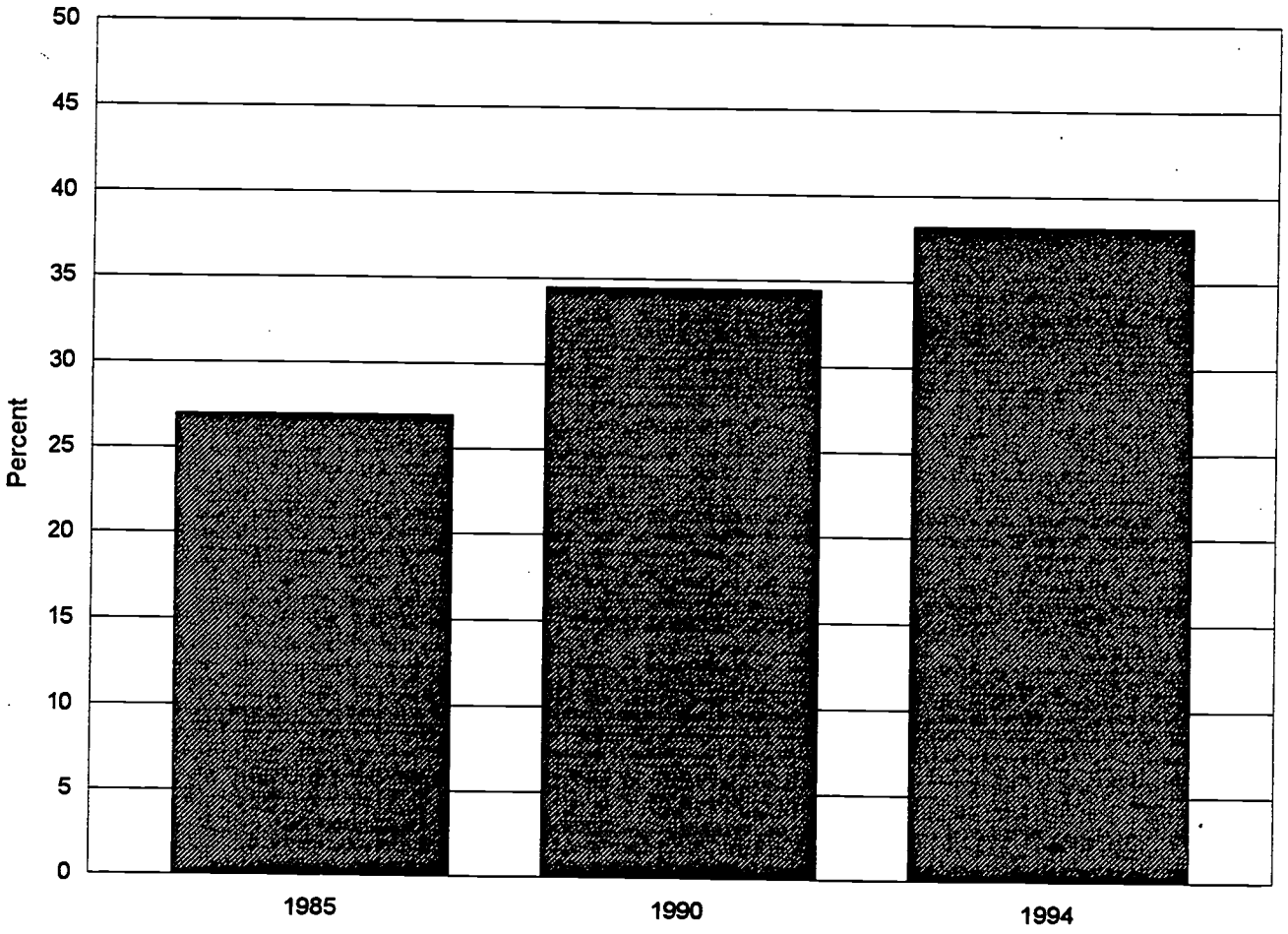
Source: U.S. Census Bureau

Educational Attainment of Adult Population, 1990
Graduate or Professional Degree



Source: U.S. Census Bureau

College-Going Rates for Students Directly Out of High School 1985, 1990 and 1994



Note: Rates are calculated for state-supported universities and community colleges only. Data for 1995 are not available yet.
Source: CHE Database

KENTUCKY TECH POSTSECONDARY/ADULT CUMULATIVE ENROLLMENT

YEAR	ENROLLMENT/GRADUATES IN LONG-TERM PROGRAMS						ENROLLMENT IN UPGRADE, APPRENTICESHIP AND CONTINUING EDUCATION PROGRAMS *
	Number Enrolled			#	#	Total	
	Full Time	Part Time	Total	Receiving Diploma	Receiving Certificate	Completers	
1995-96	12183	4,002	16,185	2,175	963	3,138	30,968
1994-95	11936	2,781	14,717	2,280	891	3,171	29,516
1993-94	12837	2,412	15,249	1,885	1,013	2,898	22,211
1992-93	13165	1,725	14,890	2,502	1,332	3,834	27,075
1991-92	13428	1,678	15,106	2,684	1,094	3,778	28,932
1990-91	13624	1,905	15,529	2,607	1,491	4,098	32,575

* Excludes: Fire/Rescue Training (37,000 in 1995-96)
Customized Business and Industry (49,805 in 1995-96)

HEADCOUNT ENROLLMENT BY LEVEL
KENTUCKY HIGHER EDUCATION INSTITUTIONS
FALL 1987 - FALL 1996

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	% Change: Fall 1996 and Maximum Enrollment Year* (1992)
STATE-SUPPORTED INSTITUTIONS											
UNIVERSITIES											
Undergraduate	77,183	80,997	84,915	88,903	91,240	90,916	88,972	86,832	85,504	83,990	-7.6
Graduate	14,445	14,659	15,212	15,214	16,116	16,308	16,335	16,738	17,185	17,315	6.2
Post-Doctoral	100	110	112	112	140	150	173	158	156	183	22.0
First-Professional	3,430	3,470	3,484	3,564	3,717	3,864	3,890	3,890	4,035	4,176	8.1
Total Headcount	*95,158*	*99,236*	*103,723*	*107,793*	*111,213*	*111,238*	*109,370*	*107,618*	*106,880*	*105,664*	*-5.0*

											% Change: Fall 1996 and Maximum Enrollment Year* (1993)
UK COMMUNITY COLLEGE SYSTEM	*29,776*	*33,063*	*36,454*	*40,758*	*46,069*	*48,046*	*48,370*	*45,581*	*43,619*	*43,674*	*-9.7*

											% Change: Fall 1996 and Maximum Enrollment Year* (1992)
TOTAL STATE-SUPPORTED											
Undergraduate	106,959	114,060	121,369	129,661	137,309	138,962	137,342	132,413	129,123	127,664	-8.1
Graduate	14,445	14,659	15,212	15,214	16,116	16,308	16,335	16,738	17,185	17,315	6.2
Post-Doctoral	100	110	112	112	140	150	173	158	156	183	22.0
First-Professional	3,430	3,470	3,484	3,564	3,717	3,864	3,890	3,890	4,035	4,176	8.1
Total Headcount	*124,934*	*132,299*	*140,177*	*148,551*	*157,282*	*159,284*	*157,740*	*153,199*	*150,499*	*149,338*	*-6.2*

* The maximum enrollment year for the universities was 1992, the UK Community College System was 1993, and the system total was 1992.

Notes:
- Graduate data include Doctoral students.
- First-Professional data include House Staff.
- Beginning in Fall 1996, Hazard Community College includes headcount enrollment from Lees College (formerly a two-year independent institution).

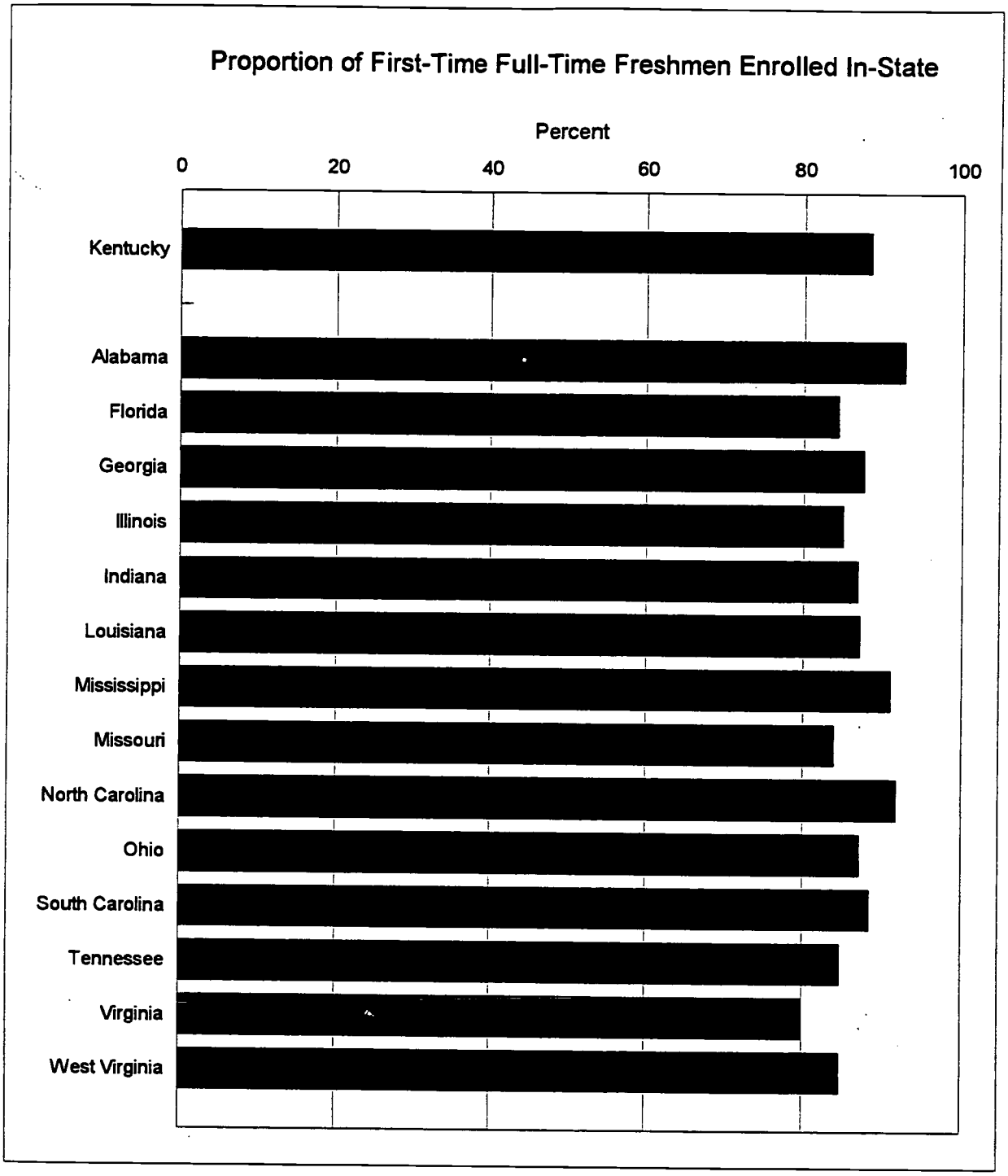
Source: Council on Higher Education Database (ID001).

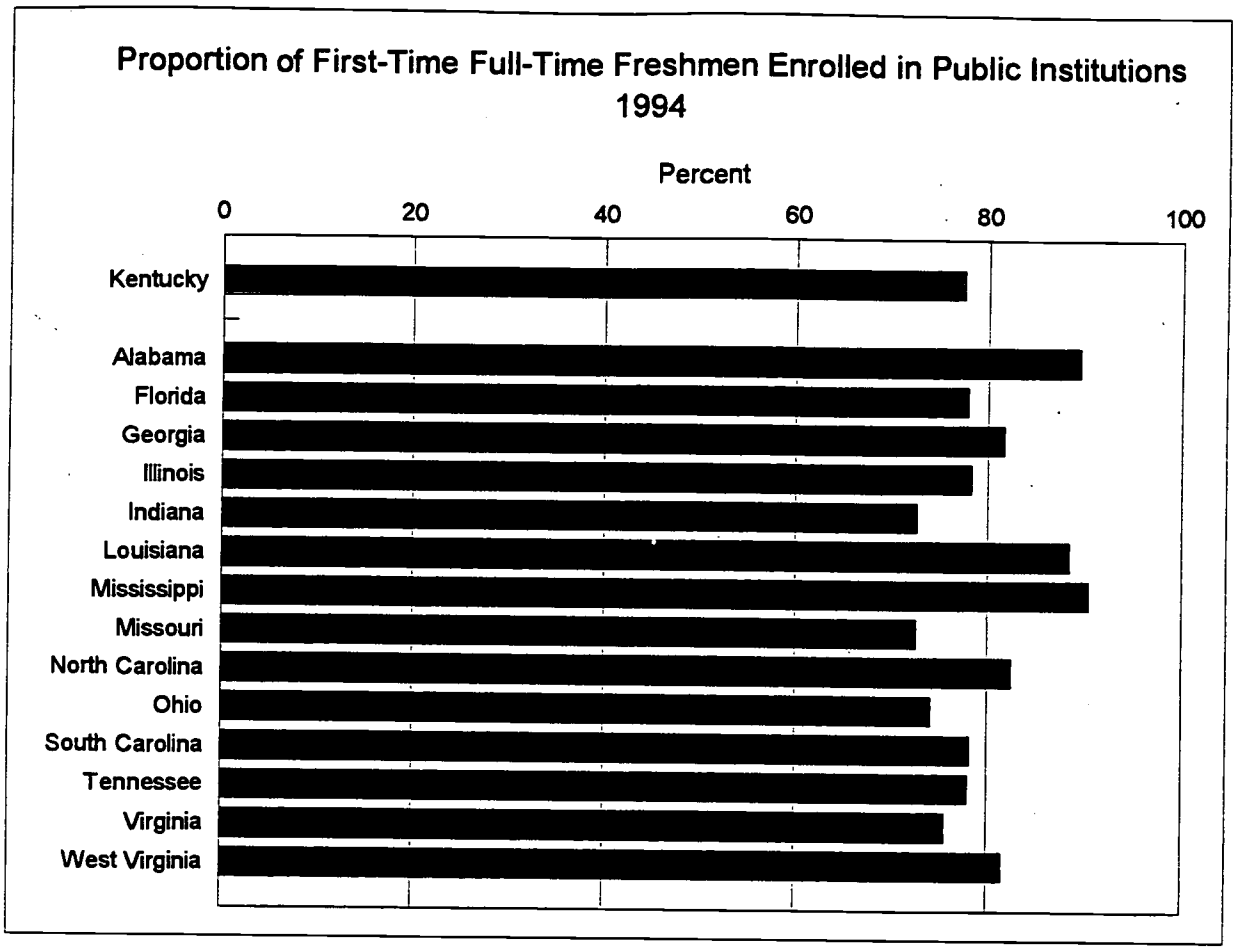
HEADCOUNT ENROLLMENT BY LEVEL
KENTUCKY HIGHER EDUCATION INSTITUTIONS
FALL 1987 - FALL 1996

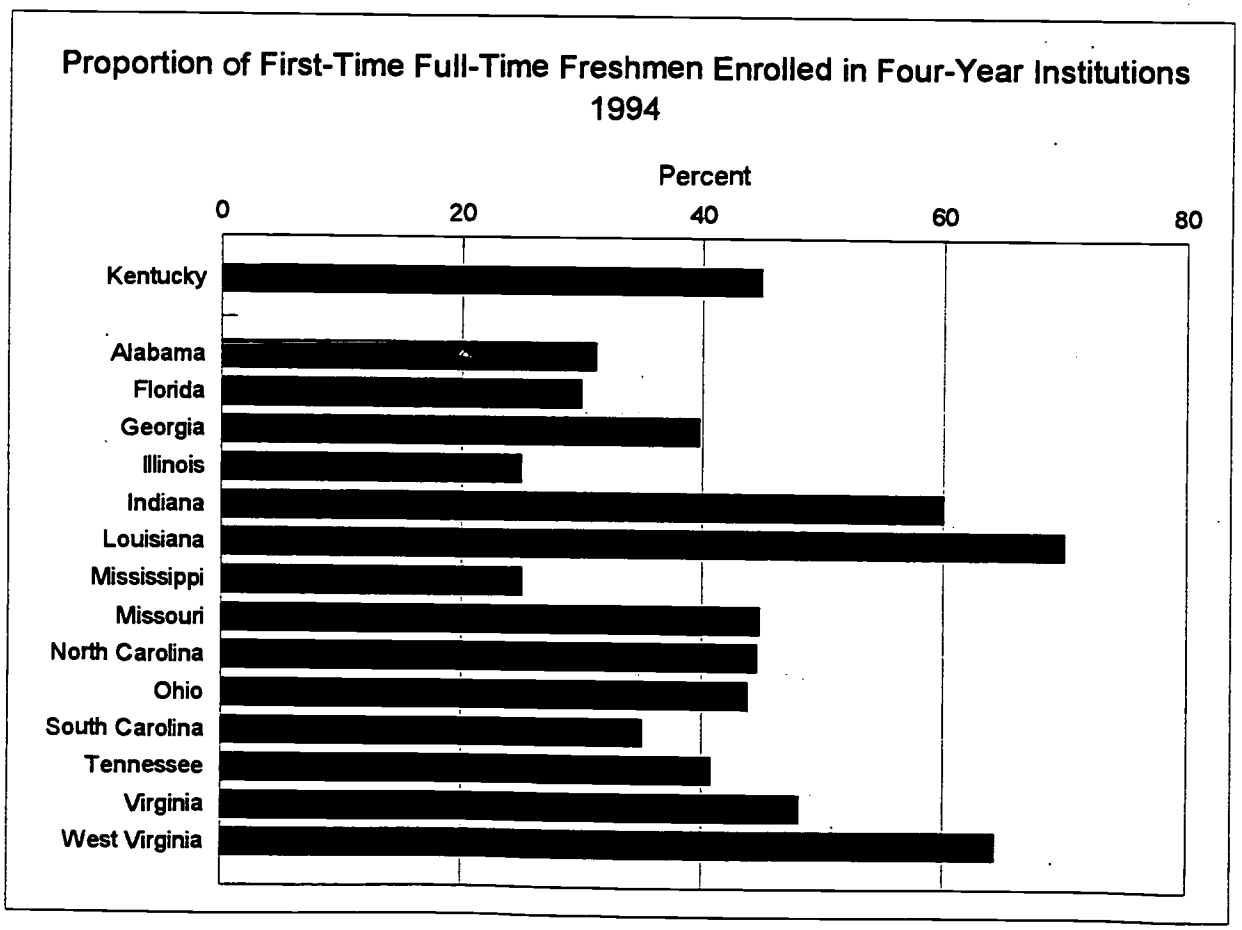
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
TWO-YEAR AND FOUR-YEAR INDEPENDENT INSTITUTIONS										
Undergraduate	21,398	21,513	22,142	22,658	23,105	22,166	22,607	22,546	23,002	22,760
Graduate	1,791	1,749	1,763	1,741	1,616	1,616	1,654	1,668	1,754	1,691
Total Headcount	*23,189*	*23,262*	*23,905*	*24,399*	*24,721*	*23,782*	*24,261*	*24,214*	*24,756*	*24,451*

Note: Beginning in Fall 1996, Lees College (formerly a two-year independent institution) headcount enrollment is included with Hazard Community College.

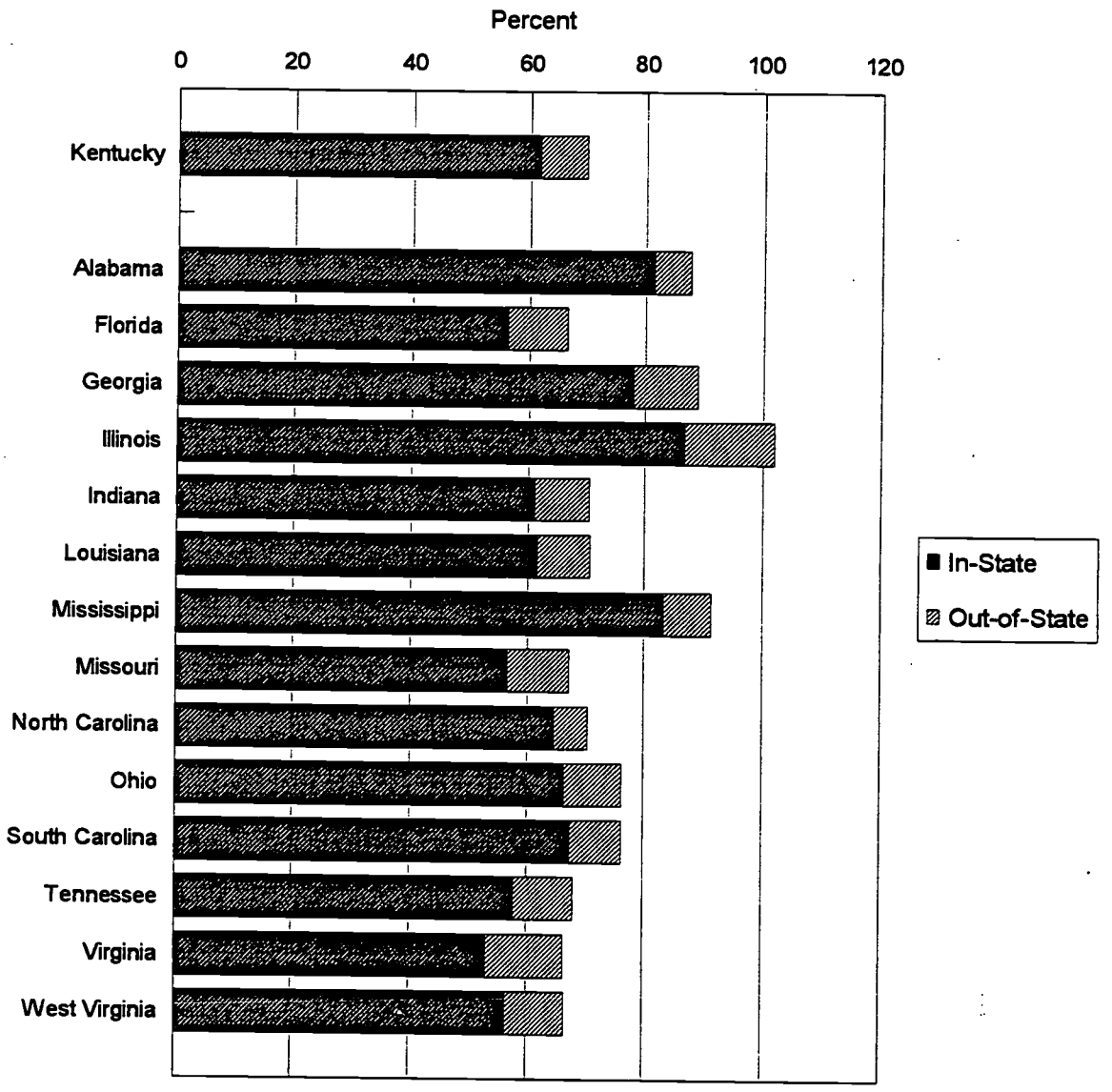
Source: Council on Higher Education Database.


Proportion of First-Time Full-Time Freshmen Enrolled In-State
Percent
0
20
40
60
80
100
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia


Proportion of First-Time Full-Time Freshmen Enrolled in Public Institutions
1994
Percent
0
20
40
60
80
100
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia


Proportion of First-Time Full-Time Freshmen Enrolled in Four-Year Institutions
1994
Percent
0
20
40
60
80
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia

Ratio of First-Time Full-Time Freshmen to High School Graduates 1994

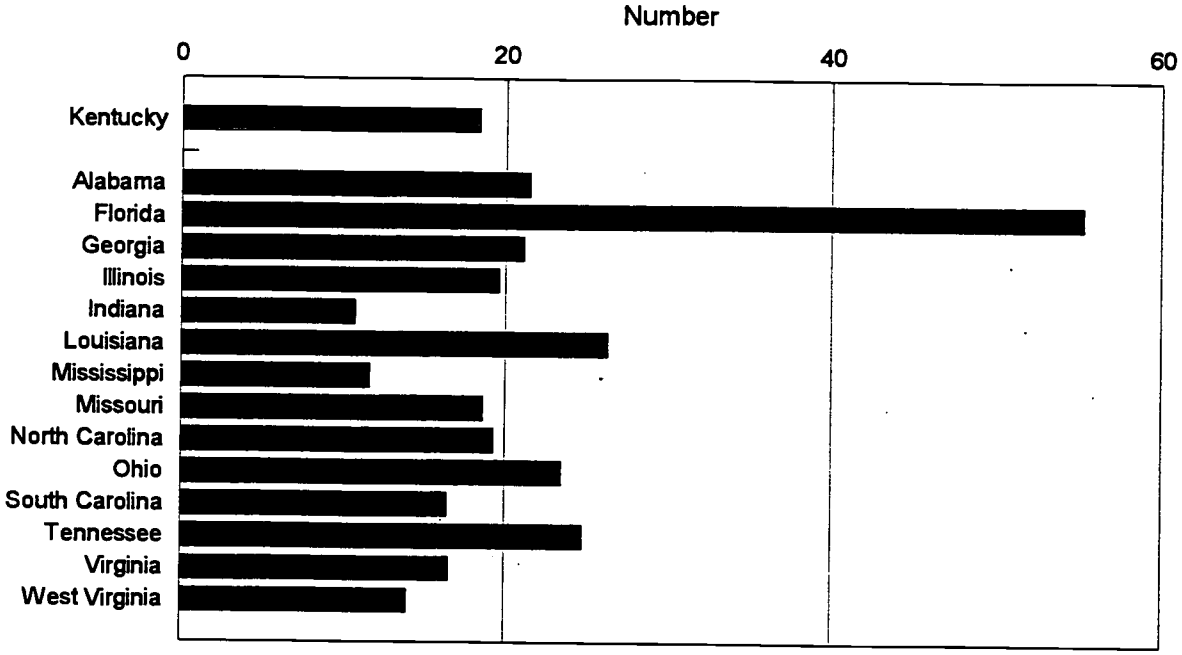


Source: NCES, IPEDS, 1994

Comparisons of Degrees Awarded		
Figure Title	Kentucky (Rank)	Comparison State Average
Number of Awards Per 100 High School Diplomas Granted		
Postsecondary Certificates and Diplomas	18.38 (10)	23.23
Associate Degrees	15.54 (11)	21.26
Baccalaureate Degrees	34.98 (15)	43.68
Masters Degrees	9.63 (13)	13.62
Doctorate Degrees	0.96 (14)	1.54
Number of Awards Per 100 Baccalaureate Degrees Granted, 1994		
Masters Degrees	27.53 (10)	31.18
Doctorate Degrees	2.74 (12)	3.53
Baccalaureate Degrees Awarded Per 100 High School Graduates, 1994		
Computer Science, Engineering, Sciences	53.50 (15)	69.21
Health Professions	31.76 (7)	29.73
Business	62.99 (15)	96.35
Education	55.97 (6)	50.01
Associate Degrees Awarded Per 1000 High School Graduates, 1994		
Computer Science, Engineering, Sciences	18.54 (9)	21.64
Skilled Trades	3.11 (14)	8.82
Health Professions	52.81 (4)	42.60
Percent of Total Number of Masters Degrees Awarded, 1994: Business and Education	50.48 (11)	52.09
Percent of Total Number of Doctoral Degrees Awarded, 1994: Computer Science, Engineering and Sciences	26.18 (13)	33.65

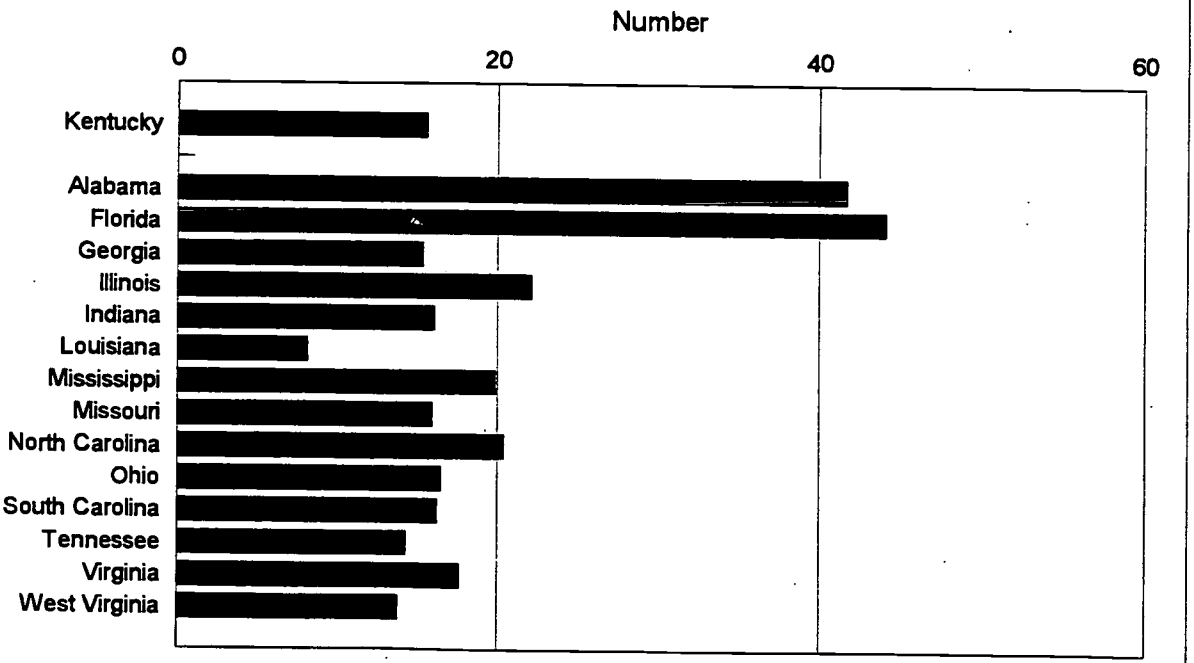
Note: Rank is with respect to comparison states only. Rank order is 1=high, 15=low; a rank of 10 means that 9 comparison states had higher values than Kentucky and 5 comparison states had lower values than Kentucky.

Number of Awards Per 100 High School Diplomas Granted
Certificates



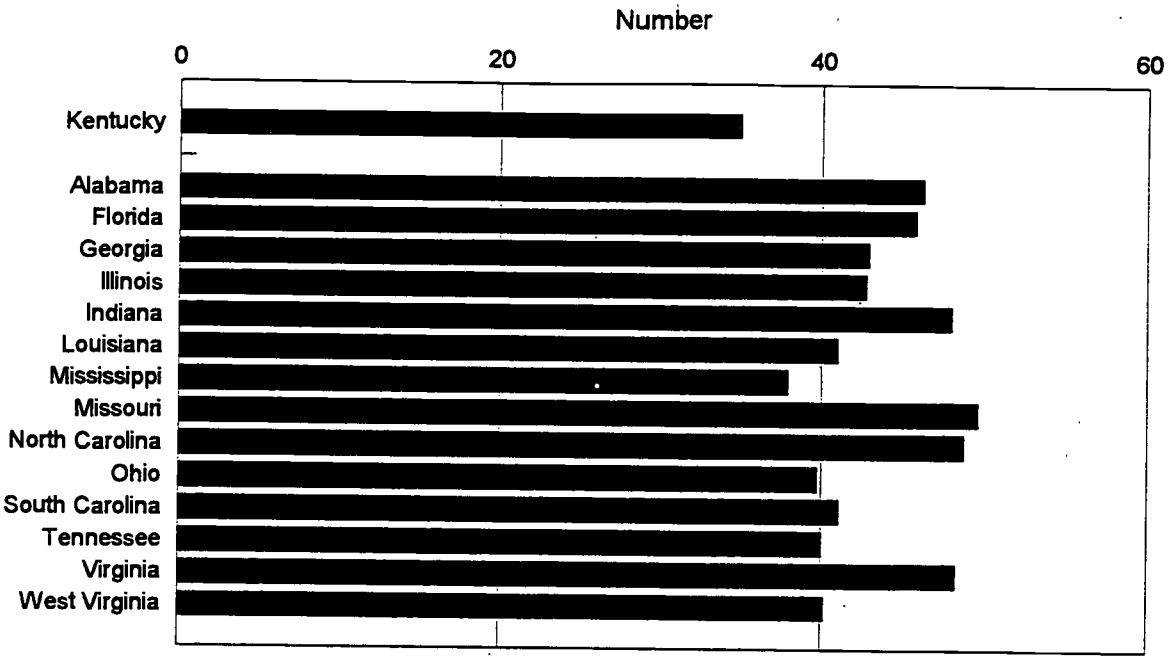
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;
Includes awards granted by the Kentucky Tech System

Number of Awards Per 100 High School Diplomas Granted
Associate Degrees



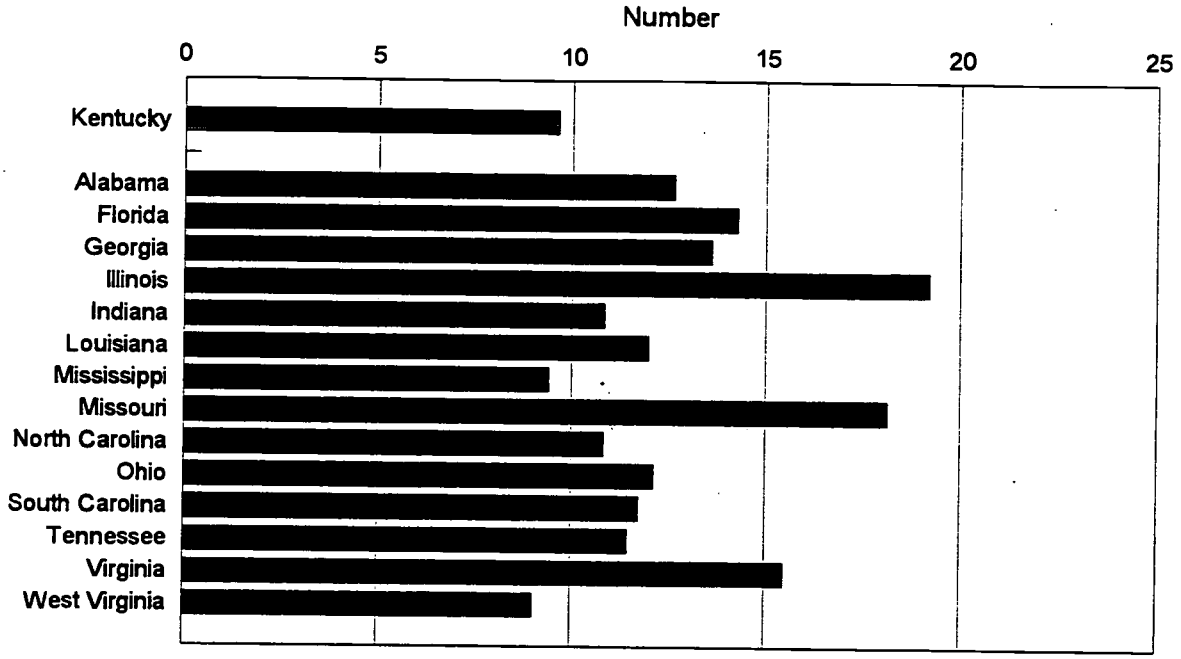
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Number of Awards Per 100 High School Diplomas Granted
Baccalaureate Degrees



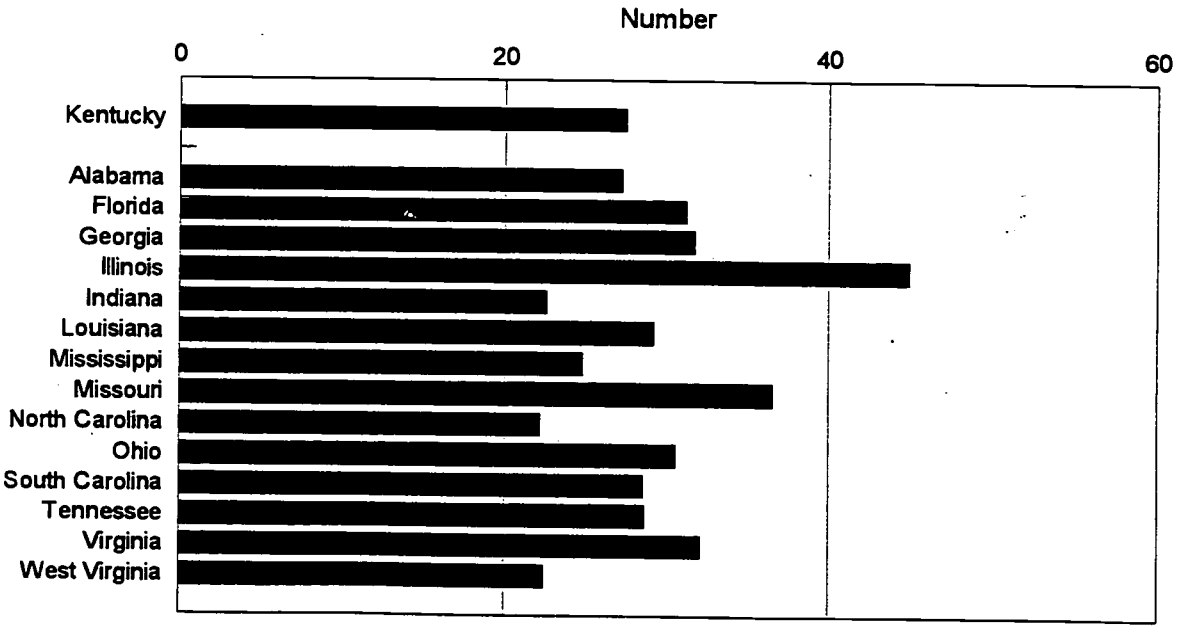
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Number of Awards Per 100 High School Diplomas Granted
Masters Degrees



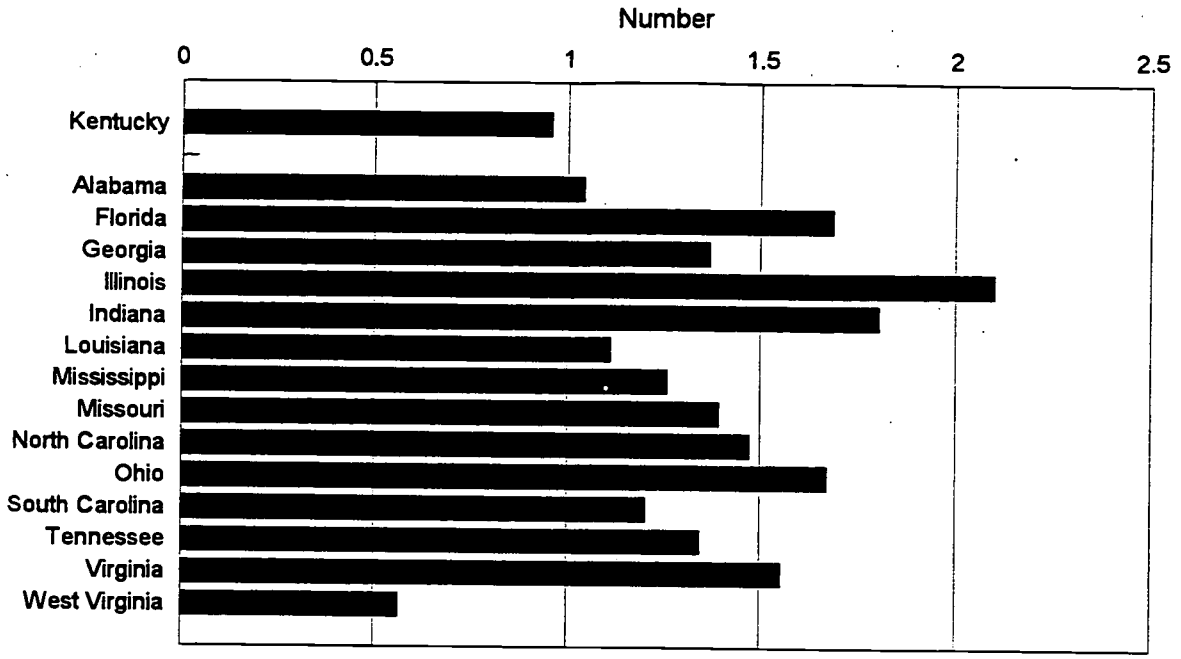
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Number of Awards Per 100 Baccalaureate Degrees Granted
Masters Degrees



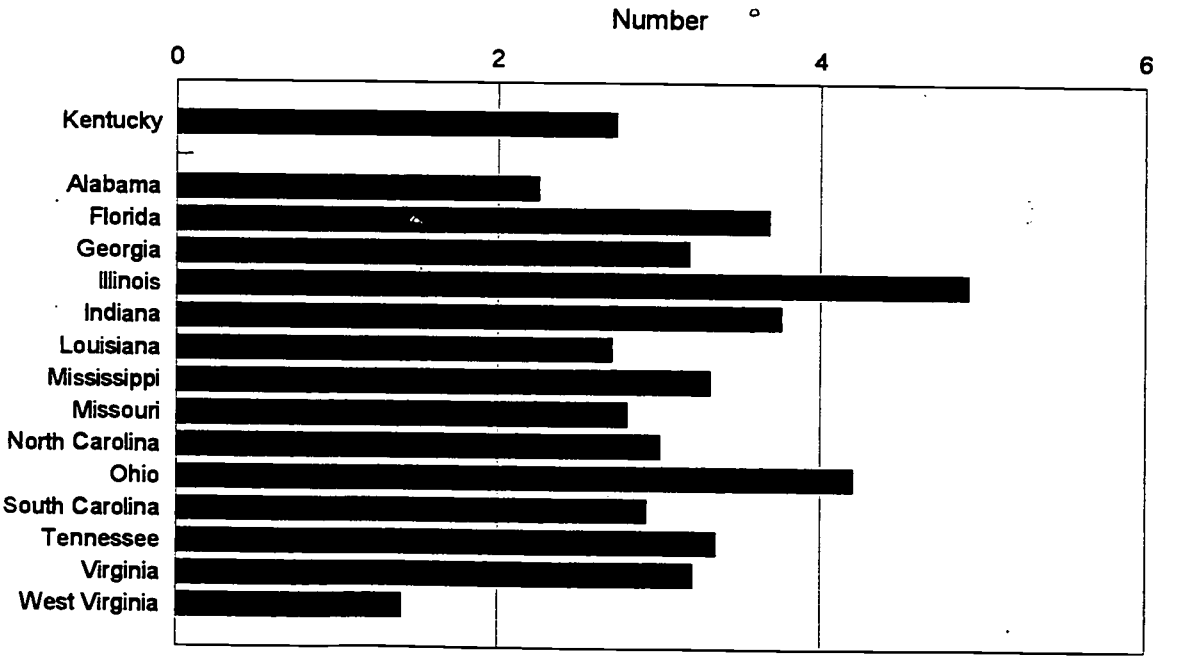
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Number of Awards Per 100 High School Diplomas Granted
Doctorate Degrees



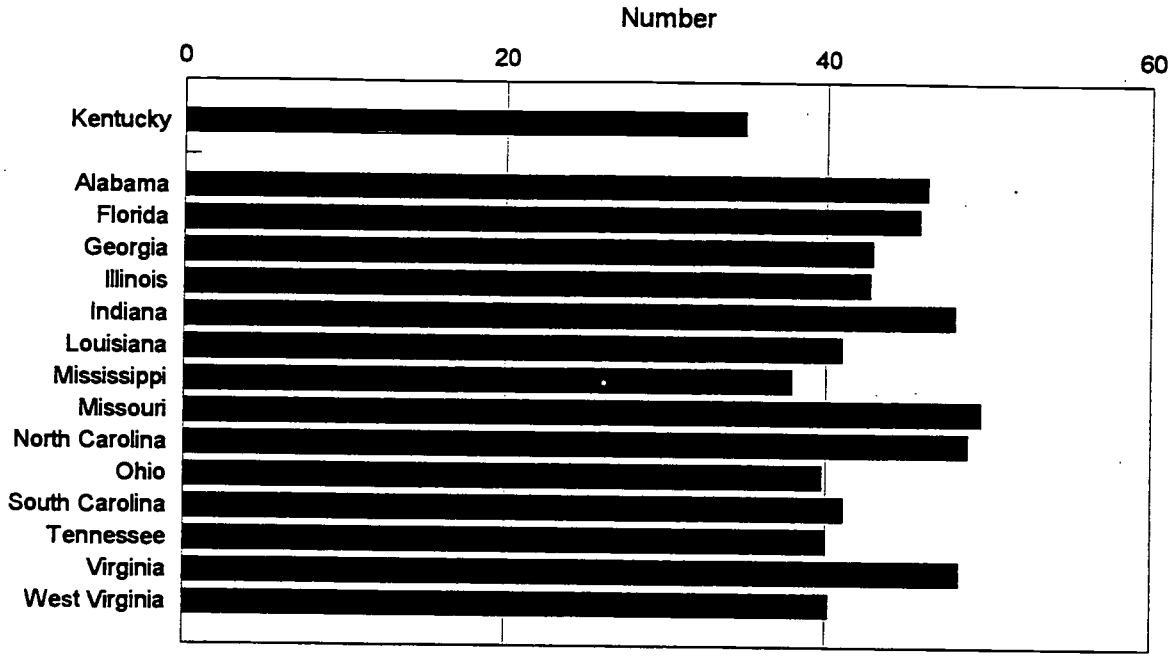
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Number of Awards Per 100 Baccalaureate Degrees Granted
Doctorate Degrees



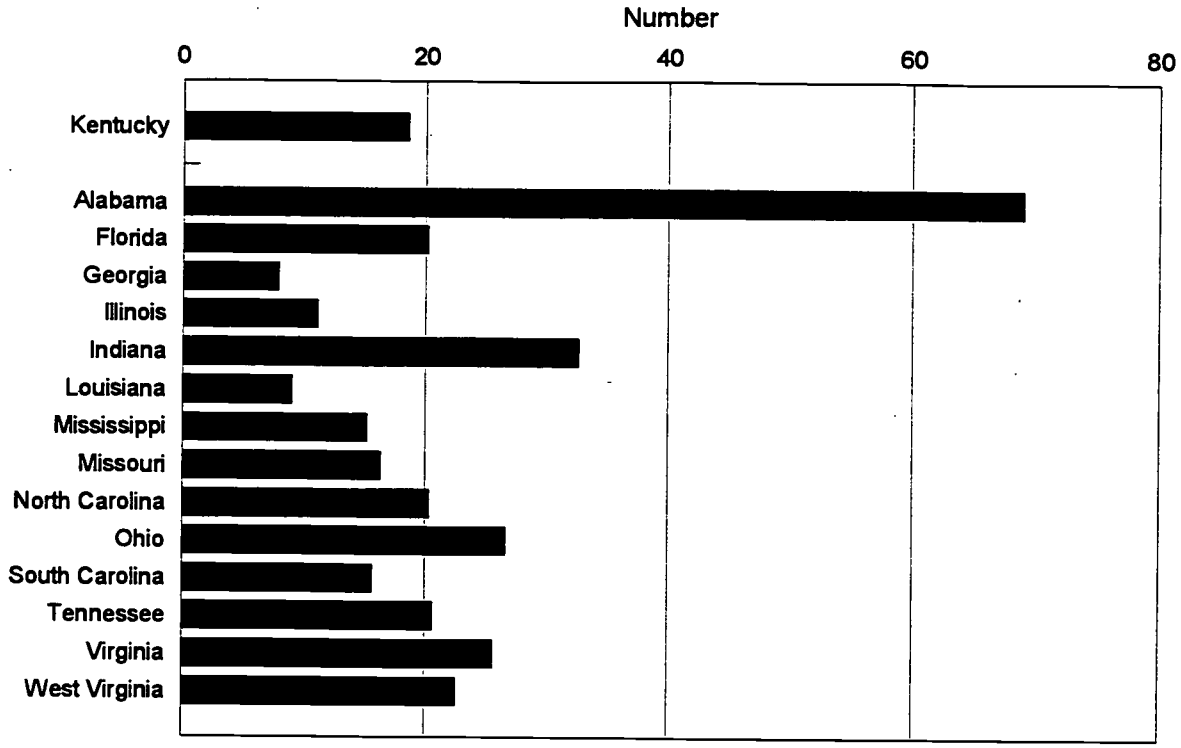
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Number of Awards Per 100 Baccalaureate Degrees Granted
Graduate Degrees



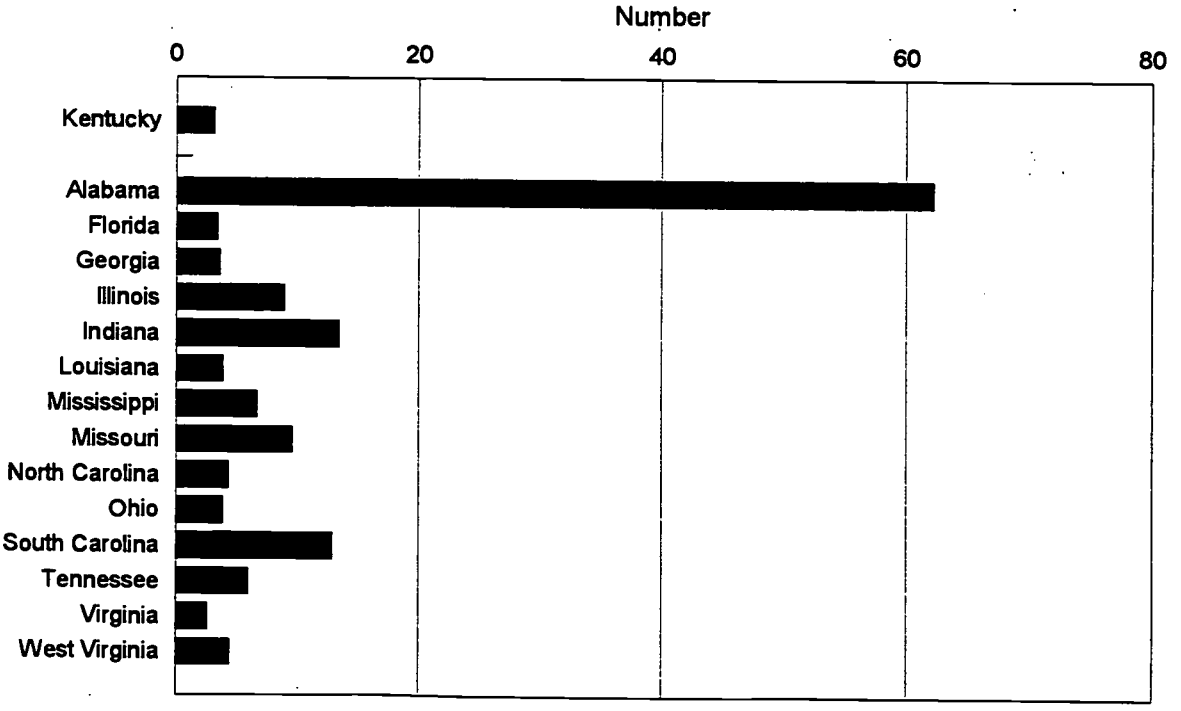
Sources: NCES, IPEDS, 1994; WICHE, High School Graduates: Projections by State, 1992-2009
Note: Collegiate Awards for 1993-94; High School Diplomas for 1989-90;

Associate Degrees Awarded Per 1000 High School Graduates
Computer Science, Engineering and Sciences - 1994

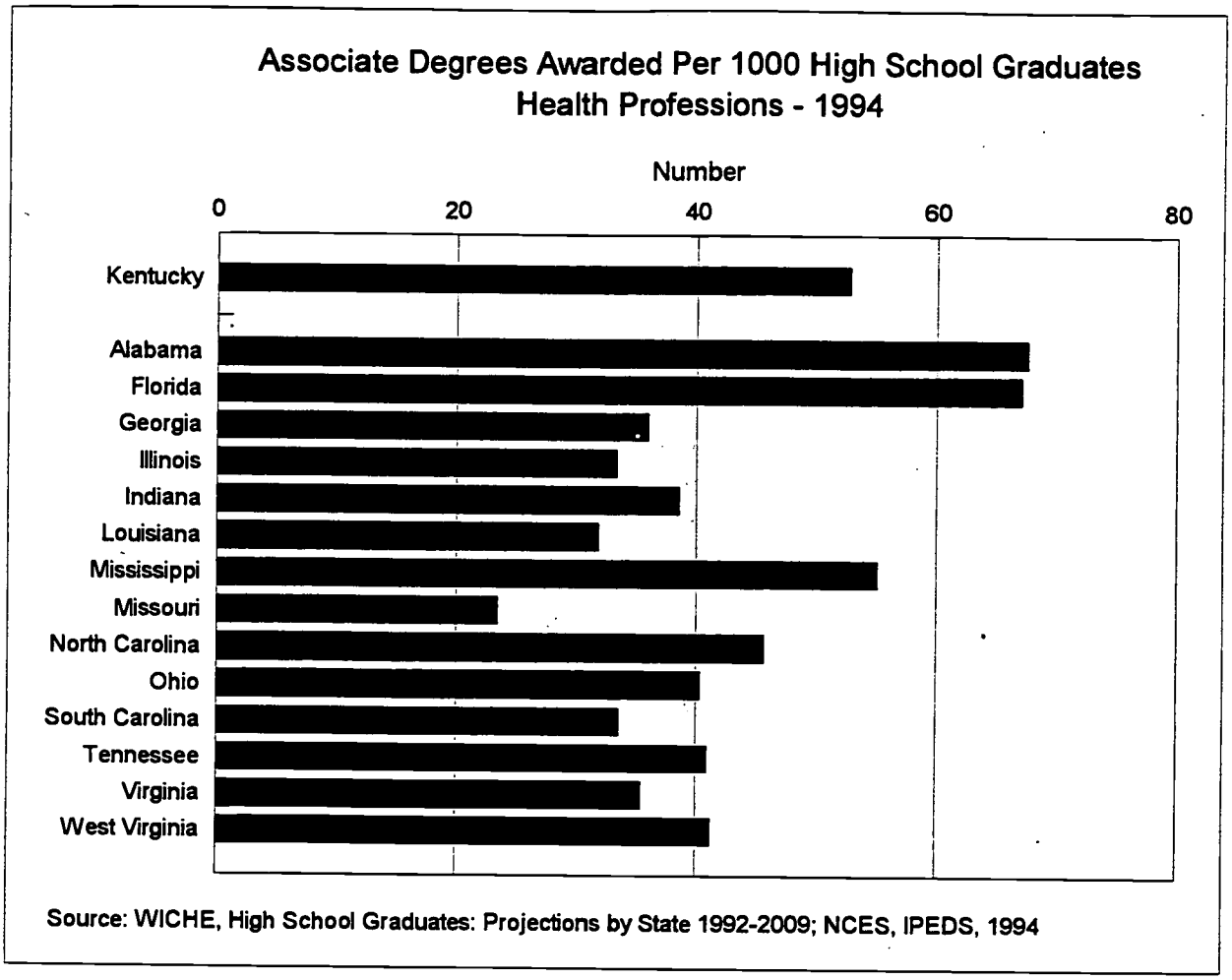


Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

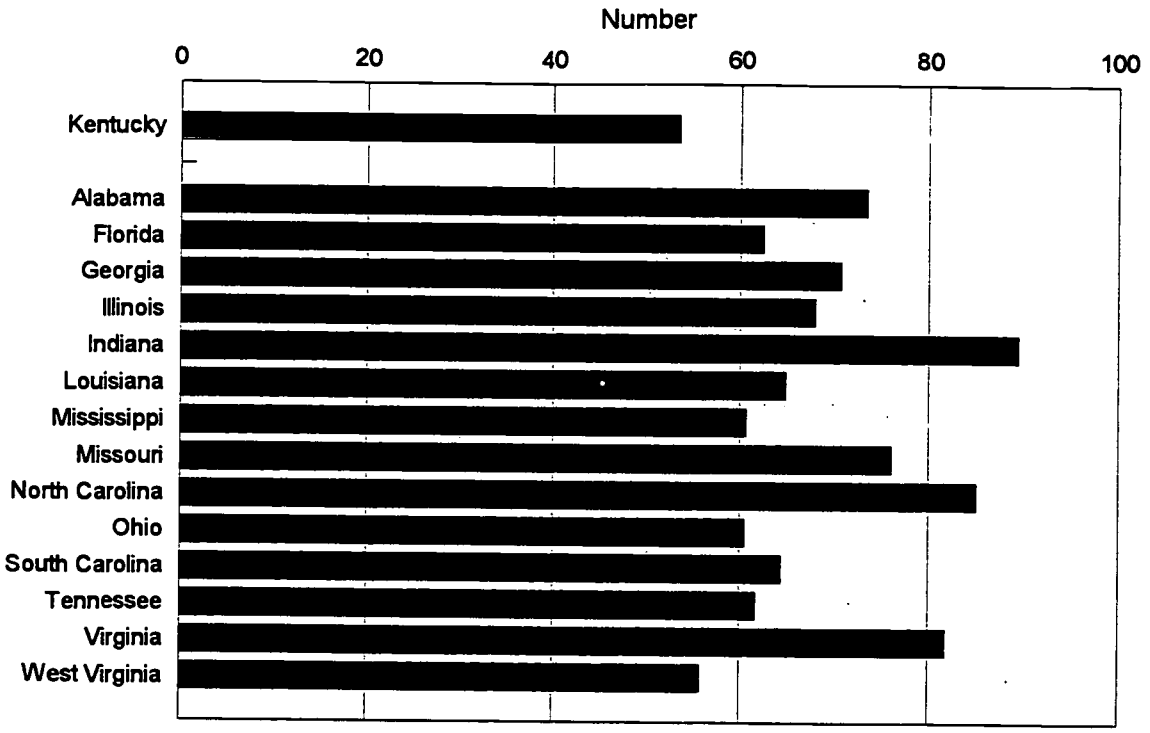
Associate Degrees Awarded Per 1000 High School Graduates
Skilled Trades - 1994



Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

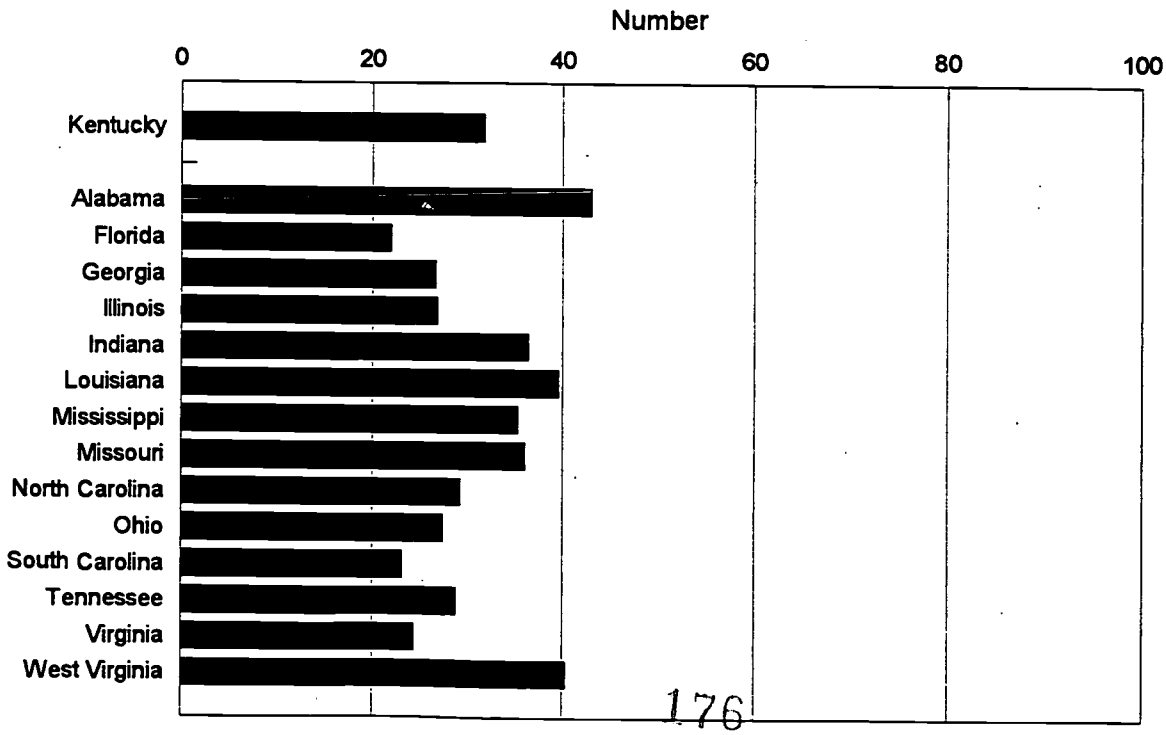

Associate Degrees Awarded Per 1000 High School Graduates
Health Professions - 1994
Number
0
20
40
60
80
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia
Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

Baccalaureate Degrees Awarded Per 1000 High School Graduates
Computer Science, Engineering, Sciences - 1994



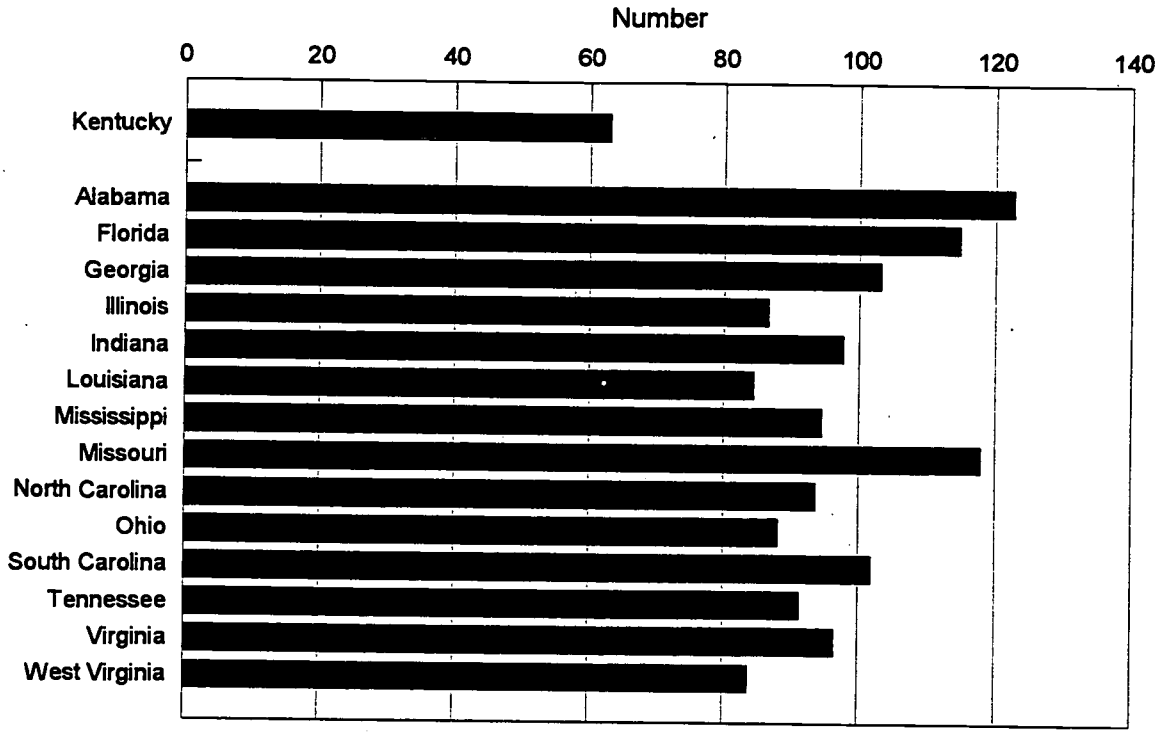
Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

Baccalaureate Degrees Awarded Per 1000 High School Graduates
Health Professions - 1994



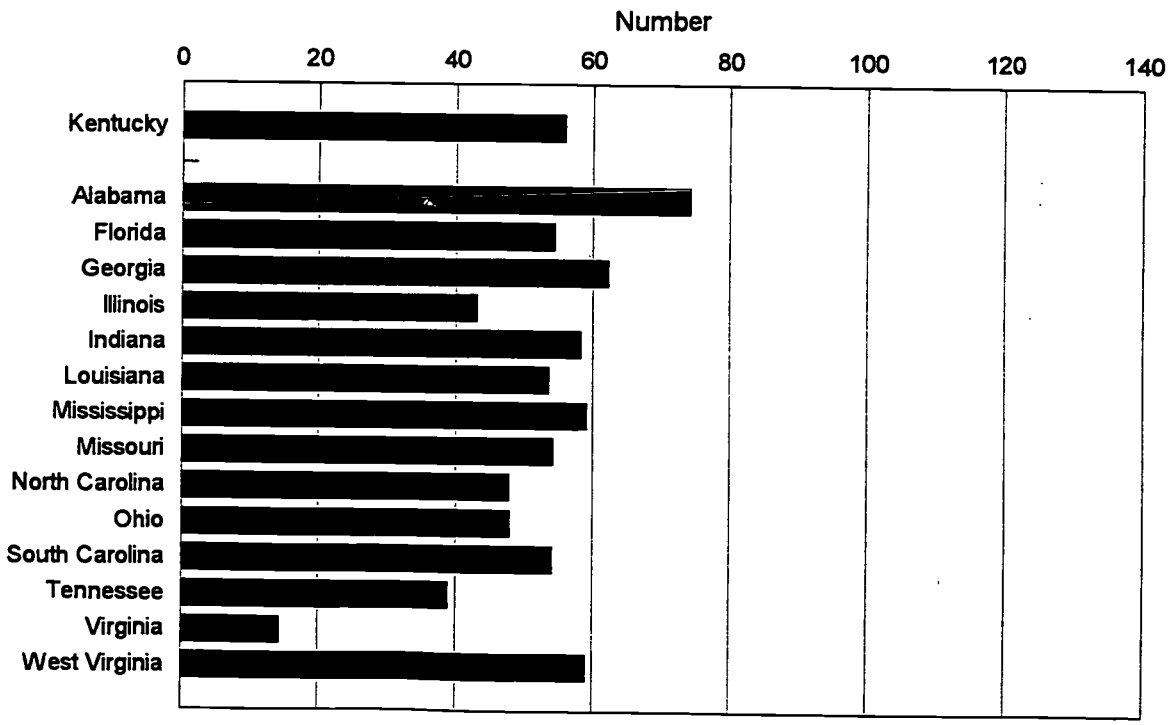
Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

Baccalaureate Degrees Awarded Per 1000 High School Graduates
Business - 1994



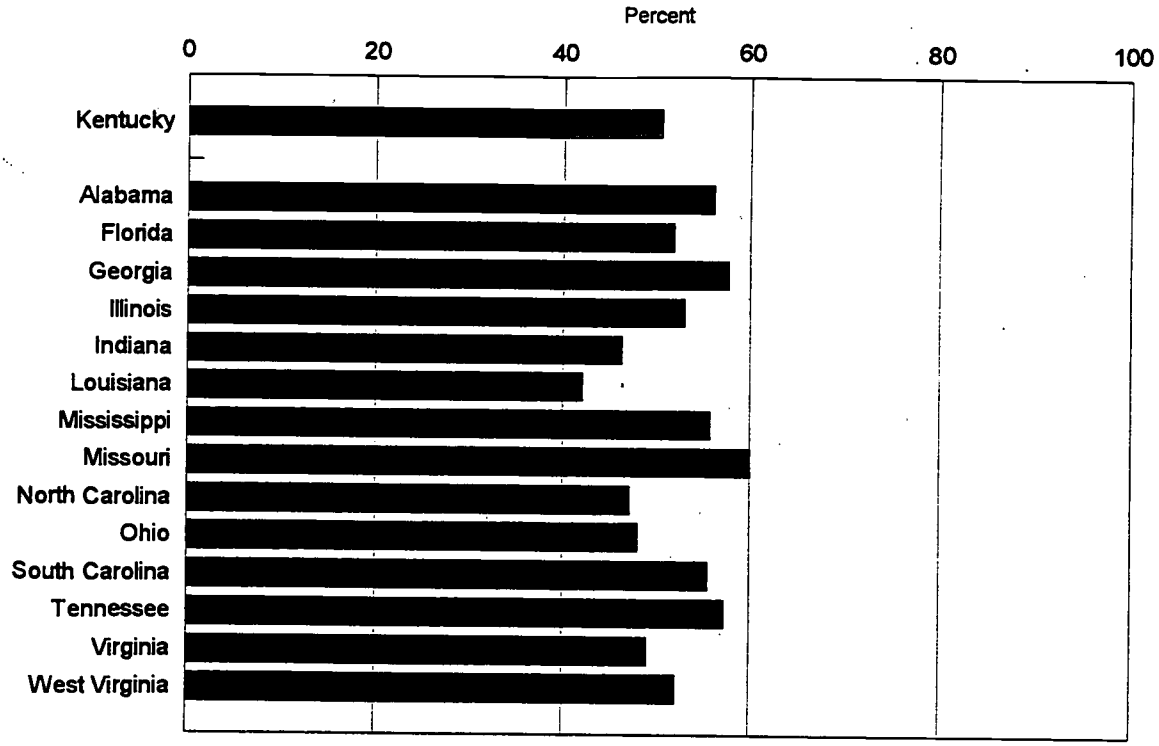
Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

Baccalaureate Degrees Awarded Per 1000 High School Graduates
Education - 1994



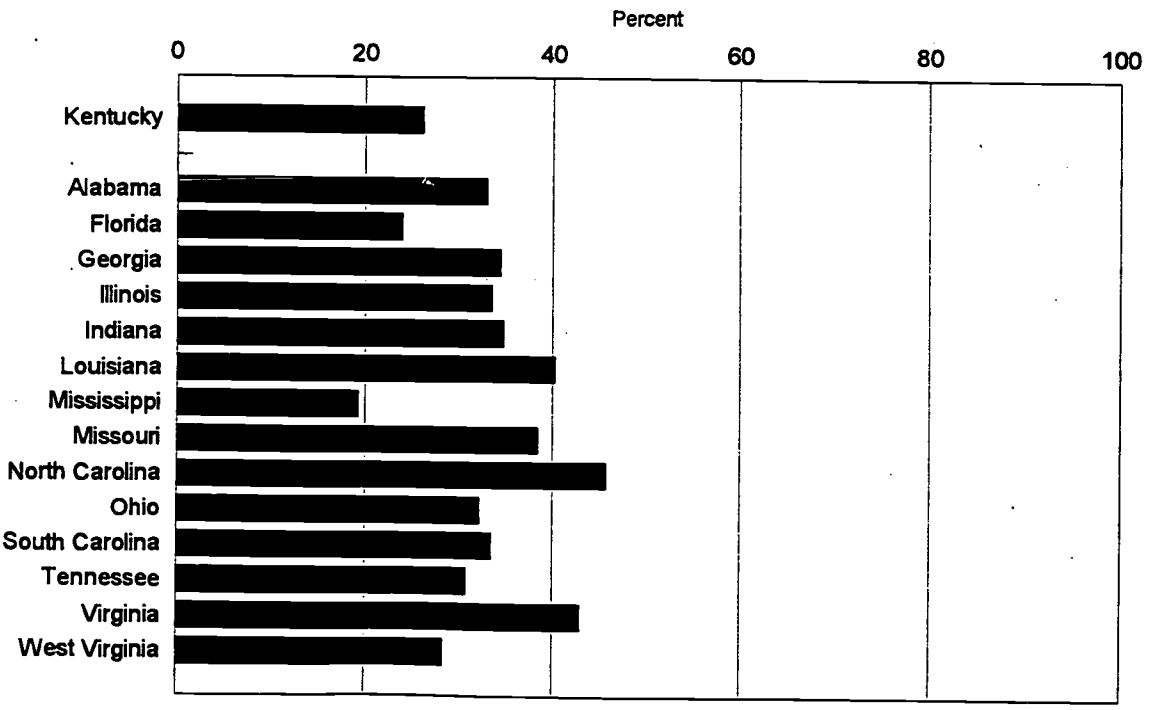
Source: WICHE, High School Graduates: Projections by State 1992-2009; NCES, IPEDS, 1994

Proportion of Masters Degrees Awarded in Business and Education



Source: NCES, IPEDS, 1994

Proportion of Doctorate Degrees Awarded in Computer Science, Engineering and Sciences



Source: NCES, IPEDS, 1994

KENTUCKY HIGHER EDUCATION INSTITUTIONS
DEGREE COMPLETION DATA
ANALYSIS OF PROGRAM PERFORMANCE

The following data are provided to give a concise picture of the array and distribution of academic programs and the academic degree performance of Kentucky higher education's public community colleges and universities. The data are presented in two sets. Set 1 reports data on the number of degrees conferred for all academic programs at all levels at all public institutions. Set 2 concentrates on academic degree program performance.

Set 1

In Set 1, the data are reported for two academic years, 1991/92 and 1995/96. The green sheets present summary information by program level (associate, bachelor's, certificate, master's, specialist, doctoral, and first professional) and by type of institution. The summary data reflect that 314 programs, 27.5 percent of the 1,142 programs currently offered at all degree levels, experienced a decline in the number of graduates between 1991/92 and 1995/96. A total of 65 associate degree programs (32.9 percent of the 197 programs currently offered) and 195 bachelor's degree programs (36.3 percent of the 537 programs currently offered) declined over the five-year period. It should be noted that enrollment in higher education began to level off and decline in this decade. University enrollment peaked at 111,238 in 1992 and has declined to 105,664 currently. UK Community College enrollment peaked at 48,370 in 1993 and is 43,674 currently. It is possible that degrees conferred data may be impacted somewhat by declining enrollments, especially in the 1995/96 reporting period.

Set 1 also provides comprehensive information about the number of institutions which offer each program at each degree level. At the baccalaureate level, the data in Set 1 are presented separately for nucleus and non-nucleus programs. Nucleus programs are those programs such as English, history, biology, psychology, etc. that are considered basic to the broad educational mission of a university. Even though courses in these fields are taken to meet general education requirements, the programs may not award a significant number of degrees. This level of detail provides the opportunity to analyze whether declines by discipline are across the board or are concentrated in select institutions. An institutional profile also is discernible.

Set 2

Set 2 takes the analysis a step further and concentrates on program performance. For the purpose of this report, low performance in undergraduate programs (associate, bachelor's, and certificate) is defined as fewer than ten degrees awarded in 1995-96. Low performance for graduate programs (master's, specialist, doctoral, and first professional) is defined as fewer than five degrees conferred in 1995-96. The analysis covers the same time period as Set 1 with the addition of a five-year average column. It is important to note that this column is derived from an average of the five years, not from the first and fifth year.

The yellow summary sheet presents a comprehensive picture of program performance by degree level and by type of institution. The systemwide totals indicate that 540 of 1,142 programs (47%) are low performance programs. At the universities, almost half of all programs at all degree levels are low performance programs. The comparable statistic in the UK Community College System is almost 40 percent. Low performance programs offered by the universities range from a low of 34 percent to 75 percent. Similarly, low performance programs at individual UK Community Colleges range from a low of 14 percent to 60 percent. Almost half of the academic programs in the system are bachelor's programs and 45 percent of them are low performance programs. Set 2 includes institutional specific and program specific performance data so that more in-depth analysis can be undertaken.

Data Source:

The degrees conferred data are reported annually to the Council on Higher Education's data base by the institutions according to the guidelines established by the systemwide data committee. Institutional representatives have not had an opportunity to review this presentation.

COUNCIL ON HIGHER EDUCATION

DEGREES CONFERRED DATA

SET 1

ASSOCIATE PROGRAM DEGREE COMPLETIONS
Regional Universities and UK Community College System Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS		TOTAL DEGREES CONFERRED	
	UNIV	UKCCS	91/92	95/96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES				
Agricultural Business/Agribusiness Operations	1		0	4
Agricultural Production Workers and Managers, General	1		1	5
Agricultural Business and Production, Other	1		5	7
Agriculture/Agricultural Sciences, General	1		0	0
Forest Harvesting and Production Technology/Technician		1	0	0
COMPUTER AND INFORMATION SCIENCES				
Data Processing Technology/Technician	2	4	62	106
EDUCATION				
Technical Teacher Education (Vocational)	3		21	8
Trade and Industrial Teacher Education (Vocational)	1		0	2
ENGINEERING TECHNOLOGY				
Architectural Engineering Technology/Technician	1		15	15
Civil Engineering/Civil Technology/Technician	1		0	2
Electrical, Electronic and Communications Engineering Technology/Technician	2	6	32	29
Biomedical Engineering-Related Technology/Technician		1	4	5
Computer Maintenance Technology/Technician	1		8	6
Electromechanical Technology/Technician		3	15	26
Water Quality and Wastewater Treatment Technology/Technician	1		0	2
Environmental Science Technology		1	0	0
Industrial/Manufacturing Technology/Technician	2		0	1
Manufacturing Technology	1		3	1
Quality Control Technology/Technician	1		1	1
Automotive Engineering Technology/Technician		1	9	0
Mechanical Engineering/Mechanical Technology/Technician	1	3	5	4
Mining Operations		1	3	3
Engineering Technology/Technician, General	1	1	6	4
Automated Industrial Systems Technology	1		6	17
HOME ECONOMICS				
Culinary Arts/Chef Training		1	3	2
Human Sciences (Consolidated Program)	1		12	12
Child Care Provider/Assistant	2	2	26	27
Institutional Food Workers and Administrators	1		1	2
Dietician Assistant	1		3	3
Home Furnishings and Equipment Installers and Consultants	1		5	0
PARALEGAL				
Paralegal/Legal Assistant	3		46	51
LIBERAL ARTS AND SCIENCES / GENERAL STUDIES AND HUMANITIES				
Liberal Arts and Sciences/Liberal Studies	2	14	1333	1750
General Studies	2		108	84
SCIENCE TECHNOLOGIES				
Meteorological Technology	1		2	2
PROTECTIVE SERVICES				
Corrections/Correctional Administration	1		6	4
Criminal Justice Studies	1		0	3
Law Enforcement/Police Science	2	3	51	46
Fire Protection and Safety Technology/Technician	1		8	6

ASSOCIATE PROGRAM DEGREE COMPLETIONS
Regional Universities and UK Community College System Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS		TOTAL DEGREES CONFERRED	
	UNIV	UKCCS	91/92	95/96
PUBLIC ADMINISTRATION AND SERVICES				
Social Work		4	56	76
SOCIAL SCIENCES AND HISTORY				
Cartography	1		0	1
PRECISION PRODUCTION TRADES				
Drafting, General	3		6	12
Architectural Drafting	1	1	27	20
Technical Illustration	1		5	0
Printing	1		1	0
Graphic Arts	1		1	3
Graphic Design, Commercial Art and Illustration		1	14	14
TRANSPORTATION				
Aviation Management	1		5	19
HEALTH PROFESSIONS AND RELATED SCIENCES				
Sign Language Interpreter	1		0	1
Dental Hygienist	2	3	51	77
Dental Laboratory Technician		1	7	9
Medical Records Technology/Technician	2		30	20
Medical Assistant	1		6	31
Occupational Therapy Assistant		1	0	0
Physical Therapy Assistant		4	50	50
Veterinarian Assistant/Animal Health Technician	1		16	11
Emergency Medical Technology/Technician	1		6	13
Nuclear Medical Technology/Technician		1	4	5
Medical Radiologic Technology/Technician	3	5	120	150
Respiratory Therapy Technician	2	4	53	66
Medical Laboratory Technician	1	3	22	37
Psychiatric/Mental Health Services Technician	1		37	32
Nursing (R.N. Training)	5	13	1159	1179
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES				
General Retailing Operations	1		3	4
Business, General	2		45	59
Business Administration and Management, General		14	301	318
Operations Management and Supervision	1		2	2
Accounting Technician		3	49	48
Administrative Assistant/Secretarial Science, General	3		22	45
Executive Assistant/Secretary	1	8	122	119
Enterprise Management and Operation, General	1		24	19
Banking and Financial Support Services	1		9	5
Quality Technology		2	0	5
Real Estate	1	1	12	5

ASSOCIATE PROGRAM DEGREE COMPLETIONS
Regional Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UL		WKU		UNIV TOTALS	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES																	
Agricultural Business/Agribusiness Operations	1					0	4									0	4
Agricultural Production Workers and Managers, General	1													1	5	1	5
Agricultural Business and Production, Other	1	5	7													5	7
Agriculture/Agricultural Sciences, General	1							0	0							0	0
Forest Harvesting and Production Technology/Technician																	
COMPUTER AND INFORMATION SCIENCES																	
Data Processing Technology/Technician	2			3	4									9	16	12	20
EDUCATION																	
Technical Teacher Education (Vocational)	3	8	2							4	4			9	2	21	8
Trade and Industrial Teacher Education (Vocational)	1							0	2							0	2
ENGINEERING TECHNOLOGY																	
Architectural Engineering Technology/Technician	1									15	15					15	15
Civil Engineering/Civil Technology/Technician	1							0	2							0	2
Electrical, Electronic and Communications Engineering Technology/Technician	2			1	4			3	2							4	6
Biomedical Engineering-Related Technology/Technician																	
Computer Maintenance Technology/Technician	1	8	6													8	6
Electromechanical Technology/Technician																	
Water Quality and Wastewater Treatment Technology/Technician	1							0	2							0	2
Environmental Science Technology																	
Industrial/Manufacturing Technology/Technician	2					0	0	0	1							0	1
Manufacturing Technology	1													3	1	3	1
Quality Control Technology/Technician	1	1	1													1	1
Automotive Engineering Technology/Technician																	
Mechanical Engineering/Mechanical Technology/Technician	1							5	0							5	0
Mining Operations																	
Engineering Technology/Technician, General	1									6	4					6	4
Automated Industrial Systems Technology	1													6	17	6	17

* Program approved or reactivated during 5-year period

ASSOCIATE PROGRAM DEGREE COMPLETIONS
Regional Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UL		WKU		UNIV TOTALS	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96
HOME ECONOMICS																	
Culinary Arts/Chef Training																	
Human Sciences (Consolidated Program)	1					12	12									12	12
Child Care Provider/Assistant	2	5	7					0	4							5	11
Institutional Food Workers and Administrators	1							1	2							1	2
Dietician Assistant	1	3	3													3	3
Home Furnishings and Equipment Installers and Consultants	1	5	0													5	0
PARALEGAL																	
Paralegal/Legal Assistant	3	11	10									35	24	0*	17	46	51
LIBERAL ARTS AND SCIENCES / GENERAL STUDIES AND HUMANITIES																	
Liberal Arts and Sciences/Liberal Studies	2			15	3			1	5							16	8
General Studies	2					36	20							72	64	108	84
SCIENCE TECHNOLOGIES																	
Meteorological Technology	1													2	2	2	2
PROTECTIVE SERVICES																	
Corrections/Correctional Administration	1	6	4													6	4
Criminal Justice Studies	1							0	3							0	3
Law Enforcement/Police Science	2	12	11							16	14					28	25
Fire Protection and Safety Technology/Technician	1	8	6													8	6
PUBLIC ADMINISTRATION AND SERVICES																	
Social Work																	
SOCIAL SCIENCES AND HISTORY																	
Cartography	1													0	1	0	1
PRECISION PRODUCTION TRADES																	
Drafting, General	3	4	5	2	5			0	2							6	12
Architectural Drafting	1													2	6	2	6
Technical Illustration	1													5	0	5	0
Printing	1	1*	0*													1	0
Graphic Arts	1							1	3							1	3
Graphic Design, Commercial Art and Illustration																	
TRANSPORTATION																	
Aviation Management	1									5	19					5	19

* Program approved or reactivated during 5-year period

2

ASSOCIATE PROGRAM DEGREE COMPLETIONS
Regional Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UL		WKU		UNIV TOTALS	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96
HEALTH PROFESSIONS AND RELATED SCIENCES																	
Sign Language Interpreter	1	0	1													0	1
Dental Hygienist	2											13	23	16	20	29	43
Dental Laboratory Technician																	
Medical Records Technology/Technician	2	19	13											11	7	30	20
Medical Assistant	1	6	31													6	31
Occupational Therapy Assistant																	
Physical Therapy Assistant																	
Veterinarian Assistant/Animal Health Technician	1					16	11									16	11
Emergency Medical Technology/Technician	1	6	13													6	13
Nuclear Medical Technology/Technician																	
Medical Radiologic Technology/Technician	3					43	33			15	22	19	34			77	89
Respiratory Therapy Technician	2									0*	11	13	15			13	26
Medical Laboratory Technician	1	6	8													6	8
Psychiatric/Mental Health Services Technician	1									37	32					37	32
Nursing (R.N. Training)	5	108	112	47	36	27	26			106	103			84	86	372	363
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES																	
General Retailing Operations	1													3	4	3	4
Business, General	2							4	5	41	54					45	59
Business Administration and Management, General																	
Operations Management and Supervision	1									2	2					2	2
Accounting Technician																	
Administrative Assistant/Secretarial Science, General	3	11	14			7	21	4	10							22	45
Executive Assistant/Secretary	1			2	5											2	5
Enterprise Management and Operation, General	1					2	6							22	13	24	19
Banking and Financial Support Services	1													9	5	9	5
Quality Technology																	
Real Estate	1													3	0	3	0

* Program approved or reactivated during 5-year period

ASSOCIATE PROGRAM DEGREE COMPLETIONS
University of Kentucky Community College System
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	ACC		ELCC		HazCC		HenCC		HopCC		JCC		LCC		MadCC		MayCC		OCC		PadCC		PrsCC		SomCC		SouCC		UKCCS Totals	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES																															
Agricultural Business/Agribusiness Operations																															
Agricultural Production Workers and Managers, General																															
Agricultural Business and Production, Other																														0	0
Agriculture/Agricultural Sciences, General	1					0*	0																							50	66
Forest Harvesting and Production Technology/Technician																															
COMPUTER AND INFORMATION SCIENCES	4			9	17	0*	0					21	30	20	39																
Data Processing Technology/Technician																															
EDUCATION																															
Technical Teacher Education (Vocational)																															
Trade and Industrial Teacher Education (Vocational)																															
ENGINEERING TECHNOLOGY																														28	23
Architectural Engineering Technology/Technician																				0	9									4	5
Civil Engineering/Civil Technology/Technician	6	2	1					0	2			5	4	21	6	0	1														
Electrical, Electronic and Communications Engineering Technology/Technician	1															4	5													15	26
Biomedical Engineering-Related Technology/Technician																		10	14												
Computer Maintenance Technology/Technician	3									0	3	5	9																	0	0
Electromechanical Technology/Technician														0*	0																
Water Quality and Wastewater Treatment Technology/Technician	1																														
Environmental Science Technology																															
Industrial/Manufacturing Technology/Technician																														9	0
Manufacturing Technology												9	0																	0	4
Quality Control Technology/Technician	1											0	3			0	1			0	0							3	3	3	3
Automotive Engineering Technology/Technician	3																					0*	0							0	0
Mechanical Engineering/Mechanical Technology/Technician	1																														
Mining Operations	1																														
Engineering Technology/Technician, General																															
Automated Industrial Systems Technology																															

* Program approved or reactivated during 5-year period
^ Program inactive for 2 years during 5-year period

ASSOCIATE PROGRAM DEGREE COMPLETIONS
University of Kentucky Community College System
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	ACC		ELCC		HazCC		HenCC		HopCC		JCC		LCC		MadCC		MayCC		OCC		PadCC		PrsCC		SomCC		SouCC		UKCCS Totals	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96
HOME ECONOMICS																															
Culinary Arts/Chef Training	1											3	2																	3	2
Human Sciences (Consolidated Program)																															
Child Care Provider/Assistant	2									0^	1	21	15																	21	16
Institutional Food Workers and Administrators																															
Dietician Assistant																															
Home Furnishings and Equipment Installers and Consultants																															
PARALEGAL																															
Paralegal/Legal Assistant																															
LIBERAL ARTS AND SCIENCES / GENERAL STUDIES AND HUMANITIES																															
Liberal Arts and Sciences/Liberal Studies	14	66	57	128	190	46	116	43	44	104	138	134	201	90	62	47	96	25	73	109	109	151	145	139	121	58	116	177	274	1,317	1,742
General Studies																															
SCIENCE TECHNOLOGIES																															
Meteorological Technology																															
PROTECTIVE SERVICES																															
Corrections/Correctional Administration																															
Criminal Justice Studies																															
Law Enforcement/Police Science	3									23	19					0*	2			0*	0									23	21
Fire Protection and Safety Technology/Technician																															
PUBLIC ADMINISTRATION AND SERVICES																															
Social Work	4							2	14	15	13	21	29							18	20									56	76
SOCIAL SCIENCES AND HISTORY																															
Cartography																															
PRECISION PRODUCTION TRADES																															
Drafting, General																															
Architectural Drafting	1													25	14															25	14
Technical Illustration																															
Printing																															
Graphic Arts																															
Graphic Design, Commercial Art and Illustration	1											14	14																	14	14
TRANSPORTATION																															
Aviation Management																															

* Program approved or reactivated during 5-year period
^ Program inactive for 2 years during 5-year period

ASSOCIATE PROGRAM DEGREE COMPLETIONS
University of Kentucky Community College System
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	ACC		ELCC		HazCC		HenCC		HopCC		JCC		LCC		MadCC		MayCC		OCC		PadCC		PrsCC		SomCC		SouCC		UKCCS Totals	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96
HEALTH PROFESSIONS AND RELATED SCIENCES																															
Sign Language Interpreter																															
Dental Hygienist	3			0*	13									22	21																
Dental Laboratory Technician	1													7	9									0*	0					22	34
Medical Records Technology/Technician																														7	9
Medical Assistant																															
Occupational Therapy Assistant	1											0*	0																		
Physical Therapy Assistant	4											16	19			0*	11					17	20			17	0^			0	0
Veterinarian Assistant/Animal Health Technician																														50	50
Emergency Medical Technology/Technician																															
Nuclear Medical Technology/Technician	1													4	5																
Medical Radiologic Technology/Technician	5					0*	14							30	24	2	4			11	14									4	5
Respiratory Therapy Technician	4											16	20	18	10	6	6											0*	5	43	61
Medical Laboratory Technician	3					0*	7	6	13																			0*	4	40	40
Psychiatric/Mental Health Services Technician																										10	9			16	29
Nursing (R.N. Training)	13	68	53	58	72	57	65	60	74	47	28	142	175	77	67	74	94	30	23			61	59	37	25	35	41	41	40	787	816
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES																															
General Retailing Operations																															
Business, General																															
Business Administration and Management, General	14	26	17	35	26	15	8	10	7	15	10	41	45	38	23	13	21	31	31	7	20	10	17	15	24	12	34	33	35	301	318
Operations Management and Supervision																															
Accounting Technician	3	15	7									26	34	8	7															49	48
Administrative Assistant/Secretarial Science, General																															
Executive Assistant/Secretary	8	20	20	15	16					21	11	17	19	13	11					11	11	12	4					11	22	120	114
Enterprise Management and Operation, General																															
Banking and Financial Support Services																															
Quality Technology	2			0*	5							0*	0																	0	5
Real Estate	1											9	5																	9	5

* Program approved or reactivated during 5-year period
^ Program inactive for 2 years during 5-year period

BACCALAUREATE PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
NUCLEUS PROGRAMS			
FOREIGN LANGUAGES AND LITERATURES			
German Language and Literature	5	12	9
French Language and Literature	7	38	28
Spanish Language and Literature	7	61	40
ENGLISH LANGUAGE AND LITERATURE/LETTERS			
English Language and Literature, General	8	358	340
Speech and Rhetorical Studies	4	39	44
Speech and Theatre	3	3	5
LIBERAL ARTS AND SCIENCES/GENERAL STUDIES AND HUMANITIES			
Liberal Arts and Sciences/Liberal Studies	2	29	32
BIOLOGICAL SCIENCES/LIFE SCIENCES			
Biology, General	8	326	406
MATHEMATICS			
Mathematics	8	164	135
PHILOSOPHY AND RELIGION			
Philosophy	7	33	37
Religion/Religious Studies	1	5	14
PHYSICAL SCIENCES			
Chemistry, General	8	101	137
Geology	6	19	38
Earth and Planetary Sciences	1	0	1
Physics, General	7	43	51
PSYCHOLOGY			
Psychology, General	8	520	622
SOCIAL SCIENCES AND HISTORY			
Social Sciences, General	5	47	80
Anthropology	5	24	49
Economics, General	5	47	52
Geography	7	92	73
	1	0	0
History	8	231	267
Political Science and Government, General	8	334	305
Sociology	8	195	287
Applied Sociology and Anthropology	1	3	7
VISUAL AND PERFORMING ARTS			
Drama/Theater Arts, General	7	17	39
Fine/Studio Arts (BA)	8	20	106
Music, General	5	16	22
Music (Liberal Arts)	2	11	9

BACCALAUREATE PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
NON-NUCLEUS PROGRAMS			
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES			
Agricultural Economics	1	27	31
Agricultural Production Workers and Managers, General	1	21	16
Ornamental Horticulture Operations and Management	1	15	14
Agriculture/Agricultural Sciences, General	4	60	127
		0	0
Animal Sciences, General	1	39	34
Food Sciences and Technology	1	4	2
Agronomy and Crop Science	1	8	11
Individualized Programs - Agriculture	1	8	34
Natural Resources Conservation, General	1	0	0
Fishing and Fisheries Sciences and Management	1	0	3
Forestry Sciences	1	9	9
Wildlife and Wildlands Management	2	10	13
ARCHITECTURE AND RELATED PROGRAMS			
Architecture	1	29	45
Landscape Architecture	1	24	14
AREA, ETHNIC AND CULTURAL STUDIES			
Latin American Studies	1	3	2
Russian and Slavic Area Studies	1	0	1
Afro-American (Black) Studies	1	1	4
Women's Studies	1	0	0
COMMUNICATIONS			
Communications, General	4	269	203
Advertising	3	121	96
Journalism	5	108	83
Public Relations and Organizational Communications	3	94	72
Radio and Television Broadcasting	4	131	104
Photojournalism	1	12	13
Speech Communications and Human Relations	1	9	12
Corporate and Organizational Communication	1	49	72
COMPUTER AND INFORMATION SCIENCES			
Computer and Information Sciences, General	6	144	120
Data Processing Technology/Technician	2	30	33
EDUCATION			
Special Education, General	5	131	149
Education of the Deaf and Hearing Impaired	1	8	18
Education of the Speech Impaired	2	51	52
Elementary Teacher Education	7	791	760
Junior High/Intermediate/Middle School Teacher Education	6	171	212
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	3	0	7
Agricultural Teacher Education (Vocational)	2	1	1
Art Teacher Education	6	23	26
Business Teacher Education (Vocational)	5	60	72
Health Teacher Education	4	9	19
Home Economics Teacher Education (Vocational)	3	8	4
Technology Teacher Education/Industrial Arts Teacher Education	2	13	14
Music Teacher Education	8	63	69
		0	0
Physical Education Teaching and Coaching	8	173	184
Science Teacher Education, General	5	19	21
Earth Science Teacher Education	1	4	0
Trade and Industrial Teacher Education (Vocational)	6	35	45
Health Occupations Teacher Education (Vocational)	1	7	7
Math and Physical Sciences Teacher Education	4	10	20
Computer Science and Mathematics Teacher Education	1	3	3

BACCALAUREATE PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
ENGINEERING			
Agricultural Engineering	1	0	16
Chemical Engineering	2	42	79
Civil Engineering, General	2	84	129
Computer Engineering	1	16	19
Electrical, Electronics and Communications Engineering	2	156	139
Engineering Physics	1	18	7
Industrial/Manufacturing Engineering	1	16	15
Materials Engineering	1	7	12
Mechanical Engineering	2	78	127
Mining and Mineral Engineering	1	6	4
Applied Science	1	1	10
ENGINEERING TECHNOLOGY			
Architectural Engineering Technology/Technician	2	29	38
Civil Engineering/Civil Technology/Technician	2	19	21
Electrical, Electronic and Communications Engineering Technology/Technician	2	28	27
Electronic Engineering Technology	1	8	10
Electromechanical Technology/Technician	1	3	3
Water Quality and Wastewater Treatment Technology/Technician	2	21	44
Environmental and Pollution Control Technology/Technician	1	0	4
Industrial/Manufacturing Technology/Technician	4	112	107
Printing Management	1	7	15
Manufacturing Technology	2	19	9
Manufacturing Engineering Technology	1	0	4
Occupational Safety and Health Technology/Technician	1	66	71
Mechanical Engineering/Mechanical Technology/Technician	1	10	10
FOREIGN LANGUAGES AND LITERATURES			
Linguistics	1	6	4
Russian Language and Literature	2	8	8
Italian Language and Literature	1	0	0
Classics and Classical Languages and Literatures	1	3	3
HOME ECONOMICS			
Home Economics, General	1	1	0
Consumer Economics and Science	1	8	12
Foods and Nutrition Studies, General	4	30	84
Foods and Nutrition Science	1	0	0
Housing Studies, General	3	39	33
Individual and Family Development Studies, General	4	83	82
Clothing/Apparel and Textile Studies	4	69	36
Human Sciences (Consolidated Program)	1	0	0
PARALEGAL/LEGAL STUDIES			
Paralegal/Legal Assistant	2	56	54
ENGLISH LANGUAGE AND LITERATURE/LETTERS			
English and Applied Language Arts	1	20	11
LIBERAL ARTS AND SCIENCES/GENERAL STUDIES AND HUMANITIES			
General Studies	4	142	193
Humanities and Social Sciences	1	11	13
LIBRARY SCIENCE			
Library Science/Librarianship	2	10	5
BIOLOGICAL SCIENCES/LIFE SCIENCES			
Biochemistry	1	6	3
Recombinant Genetics	1	8	19
Agricultural Biotechnology	1	0	0
Microbiology/Bacteriology	1	5	1
Ecology	2	21	24
MATHEMATICS			
Mathematical Statistics	1	3	3
Mathematics and Computer Science	1	1	4

BACCALAUREATE PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
MULTI/INTERDISCIPLINARY STUDIES			
Interdisciplinary Studies	2	20	16
Foreign Languages and International Economics	1	0	1
Agriculture/Home Economics Education, Communication, Leadership	1	10	12
PARKS, RECREATION, LEISURE AND FITNESS STUDIES			
Parks, Recreation and Leisure Facilities Management	4	68	107
Sport and Fitness Administration/Management	1	0	25
PROTECTIVE SERVICES			
Corrections/Correctional Administration	1	35	46
Criminal Justice/Law Enforcement Administration	1	82	90
Criminal Justice Studies	2	21	68
Forensic Technology/Technician	1	7	4
Law Enforcement/Police Science	2	105	165
Security and Loss Prevention Services	1	18	12
Fire Protection and Safety Technology/Technician	1	20	32
PUBLIC ADMINISTRATION AND SERVICES			
Public Administration	2	15	16
Social Work	7	232	297
SOCIAL SCIENCES AND HISTORY			
International Relations and Affairs	2	13	22
TRANSPORTATION			
Aircraft Pilot and Navigator (Professional)	1	1	3
VISUAL AND PERFORMING ARTS			
Visual and Performing Arts	1	1	5
Graphic Design, Commercial Art and Illustration	2	4	17
Interior Design	2	44	20
Drama/Theater Arts, General	5	0	21
Fine/Studio Arts (BFA)	6	0	51
Art History, Criticism and Conservation	2	16	27
Arts Management	1	7	9
Music, General	5	16	9
Music History and Literature	3	5	6
		0	0
Music - General Performance	2	13	22
Music Theory and Composition	1	0	0
Individualized Studies	1	1	3
HEALTH PROFESSIONS AND RELATED SCIENCES			
Speech Pathology and Audiology	3	51	82
Community Health Liaison	2	9	36
Dental Hygienist	2	4	14
Health Systems/Health Services Administration	3	50	78
Medical Records Administration	1	3	7
Physician Assistant	1	25	45
Veterinarian Assistant/Animal Health Technician	1	9	27
Nuclear Medical Technology/Technician	1	7	10
Respiratory Therapy Technician	1	2	1
Cytotechnologist	1	4	6
Medical Technology	8	35	75
Health and Medical Preparatory Programs, Other	2	4	2
Psychiatric/Mental Health Services Technician	1	14	18
Nursing (R.N. Training)	6	334	385
Nursing, General (Post-R.N.)	7	59	99
Occupational Therapy	1	38	97
Physical Therapy	1	82	79
Pre-Physical Therapy	1	0	0

BACCALAUREATE PROGRAM DEGREE COMPLETIONS
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PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES			
Fashion Merchandising	1	8	4
Business, General	5	240	190
		0	1
Business Administration and Management, General	7	369	244
Office Supervision and Management	2	9	5
Equine Administration	1	7	4
Accounting	8	594	501
Administrative Assistant/Secretarial Science, General	1	1	5
Business/Managerial Economics	7	36	37
Finance, General	7	374	282
Insurance and Risk Management	1	22	11
Hospitality Administration/Management	1	15	10
Hotel/Motel and Restaurant Management	1	12	16
Labor/Personnel Relations and Studies	1	7	11
Organizational Behavior Studies	1	0	31
International Business	1	0	0
Management Information Systems and Business Data Processing, General	4	50	63
Management Science	1	0	13
Business Marketing and Marketing Management	8	514	358
Real Estate	2	23	13

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PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
NUCLEUS PROGRAMS		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
FOREIGN LANGUAGES AND LITERATURES																			
German Language and Literature	5	1	1					3	1			2	3	3	1	3	3	12	9
French Language and Literature	7	2	2			3	4	2	2	0*	2	19	6	7	8	5	4	38	28
Spanish Language and Literature	7	4	3			4	3	6	5	0*	4	19	11	15	12	13	2	61	40
ENGLISH LANGUAGE AND LITERATURE/LETTERS																			
English Language and Literature, General	8	30	24	8	4	26	23	27	22	41	56	116	118	83	66	27	27	358	340
Speech and Rhetorical Studies	4					6	6	8	0	10	20					15	18	39	44
Speech and Theatre	3	3	4			0	0					0	1					3	5
LIBERAL ARTS AND SCIENCES/GENERAL STUDIES AND HUMANITIES																			
Liberal Arts and Sciences/Liberal Studies	2			3	4									26	28			29	32
BIOLOGICAL SCIENCES/LIFE SCIENCES																			
Biology, General	8	25	11	10	16	15	20	31	48	28	33	80	122	86	93	51	63	326	406
MATHEMATICS																			
Mathematics	8	24	7	9	6	14	13	18	7	21	21	16	32	25	33	37	16	164	135
PHILOSOPHY AND RELIGION																			
Philosophy	7	2	1			1	7	1	1	6	6	8	14	10	6	5	2	33	37
Religion/Religious Studies	1															5	14	5	14
PHYSICAL SCIENCES																			
Chemistry, General	8	12	16	2	0	2	3	8	19	8	7	16	37	13	12	38	43	101	137
Geology	6	2	4			1	5	0	4	1	6	9	8			6	11	19	38
Earth and Planetary Sciences	1							0	1									0	1
Physics, General	7	9	6			1	9	4	3	10	16	4	7	3	3	12	7	43	51
PSYCHOLOGY																			
Psychology, General	8	66	98	6	2	24	34	22	17	62	81	144	148	96	147	100	95	520	622
SOCIAL SCIENCES AND HISTORY																			
Social Sciences, General	5			2	3	10	22			11	21	16	18			8	16	47	80
Anthropology	5	4	8							4	13	8	12	6	10	4	6	24	49
Economics, General	5	1	2					0	3			20	20	16	17	10	10	47	52
Geography	7	19	10			12	7	2	3	6	10	13	22	12	1	28	20	92	73
	1													0*	0			0	0
History	8	29	30	1	6	17	22	20	22	25	34	57	71	38	43	44	38	231	267
Political Science and Government, General	8	24	22	3	5	26	20	19	24	27	32	95	84	101	73	39	45	334	305
Sociology	8	18	21	0	2	39	46	5	6	8	15	33	37	62	87	30	73	195	287
Applied Sociology and Anthropology	1									3	7							3	7
VISUAL AND PERFORMING ARTS																			
Drama/Theater Arts, General	7	1	2			3	7	3	0	0	9	10	8	0	6	0	7	17	39
Fine/Studio Arts (BA)	8	0	13	3	1	17	23	0	11	0	0	0	18	0	29	0	11	20	106
Music, General	5	4	6	0	0	9	1			3	2			0	11			16	22
Music (Liberal Arts)	2							8	5							3	4	11	9

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PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
NON-NUCLEUS PROGRAMS																			
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES																			
Agricultural Economics	1											27	31					27	31
Agricultural Production Workers and Managers, General	1	21	16															21	16
Ornamental Horticulture Operations and Management	1	15	14															15	14
Agriculture/Agricultural Sciences, General	4					19	31	0	34							41	62	60	127
								0	0									0	0
Animal Sciences, General	1											39	34					39	34
Food Sciences and Technology	1											4	2					4	2
Agronomy and Crop Science	1											8	11					8	11
Individualized Programs - Agriculture	1											8	34					8	34
Natural Resources Conservation, General	1											0*	0					0	0
Fishing and Fisheries Sciences and Management	1							0	3									0	3
Forestry Sciences	1											9	9					9	9
Wildlife and Wildlands Management	2	7	6					3	7									10	13
ARCHITECTURE AND RELATED PROGRAMS																			
Architecture	1											29	45					29	45
Landscape Architecture	1											24	14					24	14
AREA, ETHNIC AND CULTURAL STUDIES																			
Latin American Studies	1											3	2					3	2
Russian and Slavic Area Studies	1													0	1			0	1
Afro-American (Black) Studies	1													1	4			1	4
Women's Studies	1													0*	0			0	0
COMMUNICATIONS																			
Communications, General	4					15	6					104	77	120	106	30	14	269	203
Advertising	3							23	19			61	45			37	32	121	96
Journalism	5	12	4					15	7	22	17	40	34			19	21	108	83
Public Relations and Organizational Communications	3	39	29					17	22							38	21	94	72
Radio and Television Broadcasting	4	34	24					15	10	37	36	45	34					131	104
Photojournalism	1															12	13	12	13
Speech Communications and Human Relations	1	9	12															9	12
Corporate and Organizational Communication	1							9	25							40	47	49	72
COMPUTER AND INFORMATION SCIENCES																			
Computer and Information Sciences, General	6	21	3	12	22			10	7	32	22	42	53			27	13	144	120
Data Processing Technology/Technician	2	18	16			12	17											30	33

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PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
EDUCATION		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
Special Education, General	5	34	50			21	31	17	18			35	22			24	28	131	149
Education of the Deaf and Hearing Impaired	1	8	18															8	18
Education of the Speech Impaired	2	32	28													19	24	51	52
Elementary Teacher Education	7	148	126	6	21	121	116	89	97	98	117	78	62			253	221	791	760
Junior High/Intermediate/Middle School Teacher Education	6	38	43			41	53	14	19	4	15	17	33			57	49	171	212
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	3					0*	7			0*	0	0^	0					0	7
Agricultural Teacher Education (Vocational)	2					1	1									0*	0	1	1
Art Teacher Education	6	9	6	1	0			4	6	1	9	6	3			2	2	23	26
Business Teacher Education (Vocational)	5	16	10			13	9	9	9	9	26					13	18	60	72
Health Teacher Education	4					4	17	4	1			0	1			1	0	9	19
Home Economics Teacher Education (Vocational)	3	4	2			3	2	1	0									8	4
Technology Teacher Education/Industrial Arts Teacher Education	2	6	6			7	8											13	14
Music Teacher Education	8	11	14	1	4	19	12	9	8	3	7	10	11			10	13	63	69
Physical Education Teaching and Coaching	8	31	34	4	3	20	17	25	20	16	20	24	44	32	26	21	20	173	184
Science Teacher Education, General	5	6	5			4	5			1	3	5	6			3	2	19	21
Earth Science Teacher Education	1	4	0															4	0
Trade and Industrial Teacher Education (Vocational)	6	9	7			2	0	3	4	0	0			20	31	1	3	35	45
Health Occupations Teacher Education (Vocational)	1													7	7			7	7
Math and Physical Sciences Teacher Education	4					2	1			0	1	8	17			0	1	10	20
Computer Science and Mathematics Teacher Education	1	3	3															3	3
ENGINEERING																			
Agricultural Engineering	1											0	16					0	16
Chemical Engineering	2											20	43	22	36			42	79
Civil Engineering, General	2											62	106	22	23			84	129
Computer Engineering	1													16	19			16	19
Electrical, Electronics and Communications Engineering	2											93	79	63	60			156	139
Engineering Physics	1							16	7									18	7
Industrial/Manufacturing Engineering	1													16	15			16	15
Materials Engineering	1											7	12					7	12
Mechanical Engineering	2											45	82	33	45			78	127
Mining and Mineral Engineering	1											6	4					6	4
Applied Science	1			1	10													1	10

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PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
ENGINEERING TECHNOLOGY																			
Architectural Engineering Technology/Technician	2	14	24							15	14							29	38
Civil Engineering/Civil Technology/Technician	2							9	12							10	9	19	21
Electrical, Electronic and Communications Engineering Technology/Technician	2							12	12							16	15	28	27
Electronic Engineering Technology	1									6	10							8	10
Electromechanical Technology/Technician	1															3	3	3	3
Water Quality and Wastewater Treatment Technology/Technician	2	15	28					6	16									21	44
Environmental and Pollution Control Technology/Technician	1															0	4	0	4
Industrial/Manufacturing Technology/Technician	4	43	24			44	32	0	21							25	30	112	107
Printing Management	1							7	15									7	15
Manufacturing Technology	2							10	2	9	7							19	9
Manufacturing Engineering Technology	1									0	4							0	4
Occupational Safety and Health Technology/Technician	1							66	71									66	71
Mechanical Engineering/Mechanical Technology/Technician	1															10	10	10	10
FOREIGN LANGUAGES AND LITERATURES																			
Linguistics	1											6	4					6	4
Russian Language and Literature	2											6	5	2	3			8	8
Italian Language and Literature	1											0	0					0	0
Classics and Classical Languages and Literatures	1											3	3					3	3
HOME ECONOMICS																			
Home Economics, General	1					1	0											1	0
Consumer Economics and Science	1											8	12					8	12
Foods and Nutrition Studies, General	4	8	24					3	10			17	43			2	7	30	84
Foods and Nutrition Science	1											0	0					0	0
Housing Studies, General	3	13	8					5	6							21	19	39	33
Individual and Family Development Studies, General	4	17	19	5	10			9	5			62	48					93	82
Clothing/Apparel and Textile Studies	4			5	3			10	1			32	21			22	11	69	36
Human Sciences (Consolidated Program)	1					0	0											0	0
PARALEGAL/LEGAL STUDIES																			
Paralegal/Legal Assistant	2	30	31			26	23											56	54
ENGLISH LANGUAGE AND LITERATURE/LETTERS																			
English and Applied Language Arts	1															20	11	20	11
LIBERAL ARTS AND SCIENCES/GENERAL STUDIES AND HUMANITIES																			
General Studies	4	0	0			32	41	24	7							86	145	142	193
Humanities and Social Sciences	1													11	13			11	13
LIBRARY SCIENCE																			
Library Science/Librarianship	2							0	2							10	3	10	5
BIOLOGICAL SCIENCES/LIFE SCIENCES																			
Biochemistry	1															8	3	8	3
Recombinant Genetics	1															8	19	8	19
Agricultural Biotechnology	1											0*	0					0	0
Microbiology/Bacteriology	1	5	1															5	1
Ecology	2	0	6			21	18											21	24

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PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
MATHEMATICS																			
Mathematical Statistics	1	3	3															3	3
Mathematics and Computer Science	1					1	4											1	4
MULTI/INTERDISCIPLINARY STUDIES																			
Interdisciplinary Studies	2											20	14			0	2	20	16
Foreign Languages and International Economics	1											0*	1					0	1
Agriculture/Home Economics Education, Communication, Leadership	1											10	12					10	12
PARKS, RECREATION, LEISURE AND FITNESS STUDIES																			
Parks, Recreation and Leisure Facilities Management	4	18	53			8	4	12	15							30	35	68	107
Sport and Fitness Administration/Management	1													0*	25			0	25
PROTECTIVE SERVICES																			
Corrections/Correctional Administration	1	35	46															35	46
Criminal Justice/Law Enforcement Administration	1													82	90			82	90
Criminal Justice Studies	2							21	36	0*	32							21	68
Forensic Technology/Technician	1	7	4															7	4
Law Enforcement/Police Science	2	97	164	8	21													105	185
Security and Loss Prevention Services	1	18	12															18	12
Fire Protection and Safety Technology/Technician	1	20	32															20	32
PUBLIC ADMINISTRATION AND SERVICES																			
Public Administration	2			8	7					7	9							15	16
Social Work	7	17	36	6	6	53	60	27	35	23	28	79	103			27	31	232	297
SOCIAL SCIENCES AND HISTORY																			
International Relations and Affairs	2							0*	0	13	22							13	22
TRANSPORTATION																			
Aircraft Pilot and Navigator (Professional)	1	1*	3															1	3
VISUAL AND PERFORMING ARTS																			
Visual and Performing Arts	1															1	5	1	5
Graphic Design, Commercial Art and Illustration	2									4	10					0	7	4	17
Interior Design	2											26	12	18	8			44	20
Drama/Theater Arts, General	5	0	2							0	8	0	8	0	1	0	2	0	21
Fine/Studio Arts (BFA)	6	0	8					0	10	0	16	0	8	0	5	0	4	0	51
Art History, Criticism and Conservation	2											7	18	9	9			16	27
Arts Management	1											7	9					7	9
Music, General	5	4	0			9	3	0	0	3	4					0	2	16	9
Music History and Literature	3											3	5	2	1			5	6
Music - General Performance	2													0	0			0	0
Music Theory and Composition	1											6	16	7	4			13	22
Individualized Studies	1													0	0			0	0
												1	3					1	3

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BACCALAUREATE PROGRAM DEGREE COMPLETIONS
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PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
HEALTH PROFESSIONS AND RELATED SCIENCES																			
Speech Pathology and Audiology	3							13	33			30	48			8	1	51	82
Community Health Liaison	2	3	11													6	25	9	36
Dental Hygienist	2													0	0	4	14	4	14
Health Systems/Health Services Administration	3	10	14									22	32			18	32	50	78
Medical Records Administration	1	3	7															3	7
Physician Assistant	1											25	45					25	45
Veterinarian Assistant/Animal Health Technician	1							9	27									9	27
Nuclear Medical Technology/Technician	1													7	10			7	10
Respiratory Therapy Technician	1													2	1			2	1
Cytotechnologist	1													4	6			4	6
Medical Technology	8	14	28	0	0	1	6	1	5	0	0	10	31	4	2	5	3	35	75
Health and Medical Preparatory Programs, Other	2	0	0											4	2			4	2
Psychiatric/Mental Health Services Technician	1									14	18							14	18
Nursing (R.N. Training)	6	35	100			22	31	28	55			109	77	93	80	47	42	334	385
Nursing, General (Post-R.N.)	7	32	18			0	9	13	0	14	39	0	14	0	0	0	19	59	99
Occupational Therapy	1	38	97															38	97
Physical Therapy	1											49	48	33	33			82	79
Pre-Physical Therapy	1											0*	0					0	0
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES																			
Fashion Merchandising	1	8	4															8	4
Business, General	5	22	11	16	12			41	46			161	121					240	190
								0	1									0	1
Business Administration and Management, General	7	40	24	10	7	42	51	24	8	49	40			162	93	42	21	369	244
Office Supervision and Management	2	7	2					2	3									9	5
Equine Administration	1													7	4			7	4
Accounting	8	59	45	6	9	56	50	64	35	65	49	194	152	93	105	57	56	594	501
Administrative Assistant/Secretarial Science, General	1					1*	5											1	5
Business/Managerial Economics	7	1	3	1	1	2	4			2	10	11	12	12	3	7	4	36	37
Finance, General	7	22	6			18	12	38	18	15	26	124	121	107	58	50	21	374	262
Insurance and Risk Management	1	22	11															22	11
Hospitality Administration/Management	1											15	10					15	10
Hotel/Motel and Restaurant Management	1															12	19	12	19
Labor/Personnel Relations and Studies	1									7	11							7	11
Organizational Behavior Studies	1									0*	31							0	31
International Business	1							0*	0									0	0
Management Information Systems and Business Data Processing, General	4							4	9	24	23			0	16	22	15	50	63
Management Science	1											0*	13					0	13
Business Marketing and Marketing Management	8	48	28	9	7	34	26	38	19	47	53	176	129	103	59	59	37	514	358
Real Estate	2	13	7			10	6											23	13

* Program approved during 5-year period
^ Program inactive during part of 5-year period

CERTIFICATE PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
Fire Protection and Safety Technology/Technician	1	0	0
Music - General Performance	1	0	0
Medical Records Administration **	1	1	0
Cytotechnologist **	1	3	0
Medical Technology **	1	11	0
Equine Administration **	1	0	0
Executive Assistant/Secretary	1	0	1
Real Estate	1	0	0

** Post-Baccalaureate Certificate

CERTIFICATE PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
Fire Protection and Safety Technology/Technician	1	0	0															0	0
Music - General Performance	1									0*	0							0	0
Medical Records Administration **	1	1	0															1	0
Cytotechnologist **	1													3	0			3	0
Medical Technology **	1													11	0			11	0
Equine Administration **	1													0*	0			0	0
Executive Assistant/Secretary	1							0	1									0	1
Real Estate	1															0	0	0	0

* Program approved during 5-year period
** Post-Baccalaureate Certificate

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities – Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES			
Agricultural Economics	1	6	6
Agriculture/Agricultural Sciences, General	2	12	25
Animal Sciences, General	1	8	6
Agronomy and Crop Science	1	2	3
Plant and Soil Sciences	1	7	6
Forestry Sciences	1	6	3
AREA, ETHNIC AND CULTURAL STUDIES			
Folk Studies	1	9	8
COMMUNICATIONS			
Communications, General	4	65	63
Corporate and Organizational Communication	1	13	16
COMPUTER AND INFORMATION SCIENCES			
Computer and Information Sciences, General	3	29	47
EDUCATION			
Education, General	1	12	17
Curriculum and Instruction	1	10	8
Instructional Systems Design	1	5	6
Higher Education Administration	2	3	8
Educational Psychology	1	9	10
Social and Philosophical Foundations of Education	1	1	1
Special Education, General	6	67	82
Education of the Speech Impaired	1	16	18
Counselor Education/Student Counseling and Guidance Services	6	245	215
Counseling in Non-School Settings	2	7	63
College/Postsecondary Student Counseling and Personnel Services	2	5	13
Adult and Continuing Teacher Education	1	14	13
Elementary Teacher Education	7	495	468
Junior High/Intermediate/Middle School Teacher Education	7	3	56
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	2	11	6
Secondary Teacher Education	7	274	359
Agricultural Teacher Education (Vocational)	1	3	3
Art Teacher Education	3	5	7
Business Teacher Education (Vocational)	2	12	5
English Teacher Education	1	4	4
Foreign Languages Teacher Education	2	1	4
Technology Teacher Education/Industrial Arts Teacher Education	2	27	11
Mathematics Teacher Education	1	1	5
Music Teacher Education	5	19	15
Physical Education Teaching and Coaching	5	50	86
Reading Teacher Education	3	31	46
Trade and Industrial Teacher Education (Vocational)	2	25	34
Library Science Teacher Education	1	0	5
Vocational Teacher Education	2	25	18
Teaching English as a Second Language/Foreign Language	1	0	0

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
ENGINEERING			
Agricultural Engineering	1	5	1
Bioengineering and Biomedical Engineering	1	2	7
Chemical Engineering	3	0	21
		0	0
Civil Engineering, General	3	13	37
		0	4
Computer Engineering	2	17	5
		0	0
Electrical, Electronics and Communications Engineering	3	33	38
		0	5
Engineering Mechanics	1	4	4
Industrial/Manufacturing Engineering	2	0	11
		0	10
Manufacturing Systems Engineering	1	0	3
Materials Engineering	1	4	2
Mechanical Engineering	3	33	31
		0	4
Mining and Mineral Engineering	1	6	2
Individualized Engineering Program	1	0	0
ENGINEERING TECHNOLOGY			
Industrial/Manufacturing Technology/Technician	1	21	6
Occupational Safety and Health Technology/Technician	1	23	34
Engineering Technology/Technician, General	1	20	20
FOREIGN LANGUAGES AND LITERATURES			
Linguistics	1	5	2
German Language and Literature	2	3	4
French Language and Literature	2	7	5
Spanish Language and Literature	2	11	13
Classics and Classical Languages and Literatures	1	2	3
HOME ECONOMICS			
Foods and Nutrition Studies, General	1	7	7
Dietetics/Human Nutritional Services	1	19	12
Individual and Family Development Studies, General	1	11	16
ENGLISH LANGUAGE AND LITERATURE/LETTERS			
English Language and Literature, General	6	74	84
LIBERAL ARTS AND SCIENCES/GENERAL STUDIES AND HUMANITIES			
Humanities and Social Sciences	2	5	4
LIBRARY SCIENCE			
Library Science/Librarianship	2	119	100
BIOLOGY			
Biology, General	7	24	33
		3	4
Plant Pathology	1	3	1
Microbiology/Bacteriology	2	2	2
Toxicology	1	1	4
Water Science	1	0	0
Entomology	1	1	3
Pharmacology, Human and Animal	2	3	2
MATHEMATICS			
Mathematics	6	28	25
		0	0
Mathematical Statistics	1	7	11

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
MULTI/INTERDISCIPLINARY STUDIES			
Historic Preservation, Conservation and Architectural History	1	0	0
Interdisciplinary Studies	1	2	1
Interdisciplinary Administration	1	0	0
PARKS, RECREATION, LEISURE AND FITNESS STUDIES			
Parks, Recreation and Leisure Facilities Management	3	13	18
Health and Physical Education, General	1	0	10
Exercise Sciences/Physiology and Movement Studies	1	4	17
PHILOSOPHY AND RELIGION			
Philosophy	2	4	8
PHYSICAL SCIENCES			
Chemistry, General	6	9	12
		0	2
Geology	2	12	6
Physics, General	5	11	4
		0	0
PSYCHOLOGY			
Psychology, General	4	18	25
Clinical Psychology	5	32	50
Experimental Psychology	2	6	5
PROTECTIVE SERVICES			
Criminal Justice/Law Enforcement Administration	1	6	2
Law Enforcement/Police Science	1	7	20
Loss Prevention and Safety	1	0	4
PUBLIC ADMINISTRATION AND SERVICES			
Community Organization, Resources and Services	1	14	21
Public Administration	7	83	107
Social Work	2	206	315
SOCIAL SCIENCES AND HISTORY			
Anthropology	1	6	4
Economics, General	3	9	29
Geography	3	11	9
History	5	34	27
Political Science and Government, General	3	16	16
Sociology	4	23	26
Diplomacy	1	32	25
VISUAL AND PERFORMING ARTS			
Interior Design, Merchandising, and Textiles	1	3	4
Drama/Theater Arts, General	3	8	5
		5	2
Fine/Studio Arts	3	14	8
Art History, Criticism and Conservation	2	5	2
Music, General	1	2	4
Music History and Literature	3	0	0
		0	0
Music - General Performance	3	10	19
Music Theory and Composition	1	0	0

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
HEALTH PROFESSIONS AND RELATED SCIENCES			
Speech Pathology and Audiology	4	60	71
Community Health Liaison	1	8	16
Dental Clinical Sciences/Graduate Dentistry (M.S., Ph.D.)	2	20	9
Health Systems/Health Services Administration	1	2	23
Radiation Science	1	3	0
Medical Anatomy	2	4	4
Medical Biochemistry	2	0	0
Medical Nutrition	1	1	5
Medical Physiology	2	1	4
Nursing, General (Post-R.N.)	6	53	108
Medical Pharmacology and Pharmaceutical Sciences	1	2	5
Public Health, General	1	5	4
Art Therapy	1	17	20
Occupational Therapy	1	0	2
Physical Therapy	1	3	2
Vocational Rehabilitation Counseling	1	15	21
Veterinary Clinical Sciences (M.S., Ph.D.)	1	2	1
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES			
Business, General	7	256	302
Accounting	2	12	21

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES																			
Agricultural Economics	1											8	8					6	6
Agriculture/Agricultural Sciences, General	2							6	19							8	6	12	25
Animal Sciences, General	1											8	6					8	6
Agronomy and Crop Science	1											2	3					2	3
Plant and Soil Sciences	1											7	6					7	6
Forestry Sciences	1											6	3					6	3
AREA, ETHNIC AND CULTURAL STUDIES																			
Folk Studies	1															9	8	9	8
COMMUNICATIONS																			
Communications, General	4					17	15	8	15			10	10			30	23	65	63
Corporate and Organizational Communication	1							13	16									13	16
COMPUTER AND INFORMATION SCIENCES																			
Computer and Information Sciences, General	3											18	20	7	14	4	13	29	47
EDUCATION																			
Education, General	1															12	17	12	17
Curriculum and Instruction	1											10	8					10	8
Instructional Systems Design	1											5	8					5	8
Higher Education Administration	2											2	1	1	7			3	8
Educational Psychology	1											9	10					9	10
Social and Philosophical Foundations of Education	1											1	1					1	1
Special Education, General	6	3	9			10	10	9	7			9	6	30	44	6	6	67	82
Education of the Speech Impaired	1	16	18															16	18
Counselor Education/Student Counseling and Guidance Services	6	35	49			37	30	15	3			15	17	58	66	85	50	245	215
Counseling in Non-School Settings	2	0	21													7	42	7	63
College/Postsecondary Student Counseling and Personnel Services	2	5	6													0	7	5	13
Adult and Continuing Teacher Education	1					14	13											14	13
Elementary Teacher Education	7	56	53			101	105	18	19	104	92	22	11	106	82	88	106	495	466
Junior High/Intermediate/Middle School Teacher Education	7	0	7			0	9	1	1	0	0	0	5	0	12	2	22	3	56
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	2													11	3	0*	3	11	6
Secondary Teacher Education	7	34	50			48	53	12	21	45	37	40	44	47	106	48	48	274	359
Agricultural Teacher Education (Vocational)	1															3	3	3	3
Art Teacher Education	3					1	0					2	5			2	2	5	7
Business Teacher Education (Vocational)	2													8	3	6	2	12	5
English Teacher Education	1															4	4	4	4
Foreign Languages Teacher Education	2													1	4	0	0	1	4
Technology Teacher Education/Industrial Arts Teacher Education	2	18	4					9	7									27	11
Mathematics Teacher Education	1															1	5	1	5
Music Teacher Education	5					3	3	1	1			3	2	3	4	9	5	19	15
Physical Education Teaching and Coaching	5	20	33			11	9	1	7					16	35	2	2	50	86
Reading Teacher Education	3							6	17					8	17	17	12	31	46
Trade and Industrial Teacher Education (Vocational)	2											7	4	18	30			25	34
Library Science Teacher Education	1	0	5															0	5
Vocational Teacher Education	2					13	9					12	9					25	18
Teaching English as a Second Language/Foreign Language	1							0*	0									0	0

* Program approved during 5-year period
** Only doctoral students admitted to program

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
ENGINEERING																			
Agricultural Engineering	1											5	1					5	1
Bioengineering and Biomedical Engineering	1											2	7					2	7
Chemical Engineering	3											0	6	0	15			0	21
														0	0			0	0
Civil Engineering, General	3											13	28	0	9			13	37
														0	4			0	4
Computer Engineering	2													17	5			17	5
														0	0			0	0
Electrical, Electronics and Communications Engineering	3											0	26	33	10			33	38
														0	5			0	5
Engineering Mechanics	1											4	4					4	4
Industrial/Manufacturing Engineering	2													0	11			0	11
														0	10			0	10
Manufacturing Systems Engineering	1											0*	3					0	3
Materials Engineering	1											4	2					4	2
Mechanical Engineering	3											8	14	25	17			33	31
														0	4			0	4
Mining and Mineral Engineering	1											6	2					6	2
Individualized Engineering Program	1											0*	0					0	0
ENGINEERING TECHNOLOGY																			
Industrial/Manufacturing Technology/Technician	1	21	6															21	6
Occupational Safety and Health Technology/Technician	1							23	34									23	34
Engineering Technology/Technician, General	1							20	20									20	20
FOREIGN LANGUAGES AND LITERATURES																			
Linguistics	1													5	2			5	2
German Language and Literature	2											3	4	0	0			3	4
French Language and Literature	2											2	5	5	0			7	5
Spanish Language and Literature	2											8	8	3	5			11	13
Classics and Classical Languages and Literatures	1											2	3					2	3
HOME ECONOMICS																			
Foods and Nutrition Studies, General	1											7	7					7	7
Dietetics/Human Nutritional Services	1	19	12															19	12
Individual and Family Development Studies, General	1											11	16					11	16
ENGLISH LANGUAGE AND LITERATURE/LETTERS																			
English Language and Literature, General	6	13	12			7	9	9	11			20	14	10	18	15	20	74	84
LIBERAL ARTS AND SCIENCES/GENERAL STUDIES AND HUMANITIES																			
Humanities and Social Sciences	2													3	1	2	3	5	4
LIBRARY SCIENCE																			
Library Science/Librarianship	2											107	92			12	8	119	100

* Program approved during 5-year period
y doctoral students admitted to program

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
BIOLOGY																			
Biology, General	7	3	9			5	8	0	0			6	5	5	4	5	7	24	33
Plant Pathology	1							3	4									3	4
Microbiology/Bacteriology	2											3	1					3	1
Toxicology	1											0	2	2	0			2	2
Water Science	1											1	4					1	4
Entomology	1							0*	0									0	0
Pharmacology, Human and Animal	2											1	3					1	3
MATHEMATICS												2	2	1	0			3	2
Mathematics	6	7	3					0	2			9	11	9	7	3	2	28	25
Mathematical Statistics	1							0	0									0	0
MULTI/INTERDISCIPLINARY STUDIES												7	11					7	11
Historic Preservation, Conservation and Architectural History	1											0*	0					0	0
Interdisciplinary Studies	1													2	1			2	1
Interdisciplinary Administration	1															0*	0	0	0
PARKS, RECREATION, LEISURE AND FITNESS STUDIES																			
Parks, Recreation and Leisure Facilities Management	3	4	9					3	1							6	8	13	18
Health and Physical Education, General	1											0	10					0	10
Exercise Sciences/Physiology and Movement Studies	1													4	17			4	17
PHILOSOPHY AND RELIGION																			
Philosophy	2											3	4	1	4			4	8
PHYSICAL SCIENCES																			
Chemistry, General	6	4	1					0	0			2	5	0	2	3	4	9	12
Geology	2	6	0					0	2									0	2
Physics, General	5	1	2					0	0			6	6					12	6
PSYCHOLOGY								0	0			4	0	6	2			11	4
Psychology, General	4					1	1	1	0					6	10	10	14	0	0
Clinical Psychology	5	9	16			16	17	5	10			2**	7**	0**	0**			18	25
Experimental Psychology	2											6**	5**	0**	0**			32	50
PROTECTIVE SERVICES																		6	5
Criminal Justice/Law Enforcement Administration	1													6	2			6	2
Law Enforcement/Police Science	1	7	20															7	20
Loss Prevention and Safety	1	0*	4															0	4
PUBLIC ADMINISTRATION AND SERVICES																			
Community Organization, Resources and Services	1							14	21									14	21
Public Administration	7	9	8	25	23			4	19	4	15	25	12	11	15	5	15	83	107
Social Work	2											119	192	87	123			206	315

* Program approved during 5-year period
** Only doctoral students admitted to program

MASTER'S PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
		92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
SOCIAL SCIENCES AND HISTORY																			
Anthropology	1											6	4					6	4
Economics, General	3							3	9			3	13			3	7	9	29
Geography	3							5	4			4	3			2	2	11	9
History	5	8	7					1	1			15	8	4	6	6	5	34	27
Political Science and Government, General	3	5	2									5	7	6	7			16	16
Sociology	4					6	13					3	7	5	5	9	1	23	26
Diplomacy	1											32	25					32	25
VISUAL AND PERFORMING ARTS																			
Interior Design, Merchandising, and Textiles	1											3*	4					3	4
Drama/Theater Arts, General	3											3	5	5	0			8	5
														5	2			5	2
Fine/Studio Arts	3					3	2					3	4	8	2			14	8
Art History, Criticism and Conservation	2											2	1	3	1			5	2
Music, General	1	2	4															2	4
Music History and Literature	3											0	0	0	0			0	0
														0	0			0	0
Music - General Performance	3					2	2					5	8	3	9			10	19
Music Theory and Composition	1											0	0					0	0
HEALTH PROFESSIONS AND RELATED SCIENCES																			
Speech Pathology and Audiology	4							7	20			3	13	21	20	29	18	60	71
Community Health Liaison	1															8	16	8	16
Dental Clinical Sciences/Graduate Dentistry (M.S., Ph.D.)	2											3	2	17	7			20	9
Health Systems/Health Services Administration	1											2	23					2	23
Radiation Science	1											3	0					3	0
Medical Anatomy	2											0	0	4	4			4	4
Medical Biochemistry	2											0	0	0	0			0	0
Medical Nutrition	1											1	5					1	5
Medical Physiology	2											0	2	1	2			1	4
Nursing, General (Post-R.N.)	6	0*	0					2	14	0*	7	44	63	7	24	0*	0	53	108
Medical Pharmacology and Pharmaceutical Sciences	1											2	5					2	5
Public Health, General	1											5	4					5	4
Art Therapy	1													17	20			17	20
Occupational Therapy	1	0	2															0	2
Physical Therapy	1											3	2					3	2
Vocational Rehabilitation Counseling	1											15	21					15	21
Veterinary Clinical Sciences (M.S., Ph.D.)	1											2	1					2	1
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES																			
Business, General	7	13	20			32	23	54	63	28	30	56	64	71	102	0	0	256	302
Accounting	2											12	10			0*	11	12	21

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* Program approved during 5-year period

** Only doctoral students admitted to prog

SPECIALIST PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
EDUCATION			
Curriculum and Instruction	1	1	0
Educational Supervision	1	0	0
Elementary, Middle and Secondary Education Administration	6	6	3
Higher Education Administration	1	0	0
Educational Psychology	1	5	2
Special Education, General	1	1	1
Counselor Education/Student Counseling and Guidance Services	5	5	5
College/Postsecondary Student Counseling and Personnel Services	1	0	0
Adult and Continuing Teacher Education	1	1	0
Elementary Teacher Education	3	0	0
Junior High/Intermediate/Middle School Teacher Education	1	0	0
Secondary Teacher Education	2	0	0
PSYCHOLOGY			
School Psychology	2	7	17

SPECIALIST PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of	EKU		KSU		MoSU		MuSU		NKU		UK		UL		WKU		TOTAL DEGREES CONFERRED	
EDUCATION	PROGRAMS	92	96	92	96	92	96	92	96	92	96	92	96	92	96	92	96	91/92	95/96
Curriculum and Instruction	1					1	0											1	0
Educational Supervision	1													0	0			0	0
Elementary, Middle and Secondary Education Administration	6	1	0			2	1	1	1			1	0	0	1	1	0	6	3
Higher Education Administration	1													0	0			0	0
Educational Psychology	1											5	2					5	2
Special Education, General	1											1	1					1	1
Counselor Education/Student Counseling and Guidance Services	5					0	1	1	1			1	1	0	2	3	0	5	5
College/Postsecondary Student Counseling and Personnel Services	1	0	0															0	0
Adult and Continuing Teacher Education	1					1	0											1	0
Elementary Teacher Education	3							0	0					0	0	0	0	0	0
Junior High/Intermediate/Middle School Teacher Education	1							0	0									0	0
Secondary Teacher Education	2							0	0							0	0	0	0
PSYCHOLOGY																			
School Psychology	2	7	10													0	7	7	17

FIRST-PROFESSIONAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities – Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFIRMED	
		91/92	95/96
LAW AND LEGAL STUDIES			
Law (LL.B., J.D.)	3	361	382
HEALTH PROFESSIONS AND RELATED SCIENCES			
Dentistry (D.D.S., D.M.D.)	2	92	107
Medicine (M.D.)	2	188	219
Pharmacy (B.Pharm., Pharm.D.)	1	41	77

FIRST-PROFESSIONAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	NKU		UK		UL		TOTAL DEGREES CONFIRMED	
		92	96	92	96	92	96	91/92	95/96
LAW AND LEGAL STUDIES									
Law (LL.B., J.D.)	3	102	128	122	137	137	117	361	382
HEALTH PROFESSIONS AND RELATED SCIENCES									
Dentistry (D.D.S., D.M.D.)	2			40	50	52	57	92	107
Medicine (M.D.)	2			82	89	106	130	188	219
Pharmacy (B.Pharm., Pharm.D.)	1			41	77			41	77

DOCTORAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM		NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
			91/92	95/96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES				
Agricultural Economics		1	1	6
Animal Sciences, General		1	10	8
Agronomy and Crop Science		1	3	5
Soil Sciences		1	5	1
COMMUNICATIONS				
Communications, General		1	1	3
COMPUTER AND INFORMATION SCIENCES				
Computer and Information Sciences, General		1	1	2
EDUCATION				
Educational Supervision		1	4	4
Elementary, Middle and Secondary Education Administration		1	2	9
Instruction and Administration		1	5	16
Educational Evaluation and Research		1	3	4
Educational Assessment, Testing and Measurement		1	1	2
Educational Policy Studies and Evaluation		1	5	3
Educational Psychology	EdD	1	5	0
	PhD	1	0	11
Special Education, General		2	3	2
Counselor Education/Student Counseling and Guidance Services		2	3	9
Vocational Teacher Education		1	0	3
ENGINEERING				
Agricultural Engineering		1	4	1
Bioengineering and Biomedical Engineering		1	1	1
Chemical Engineering		2	3	10
Civil Engineering, General		1	2	2
Electrical, Electronics and Communications Engineering		1	4	3
Engineering Mechanics		1	1	1
Industrial/Manufacturing Engineering		1	2	3
Materials Engineering		1	2	2
Mechanical Engineering		1	5	6
Mining and Mineral Engineering		1	0	0
Computer Science and Engineering		1	1	4
FOREIGN LANGUAGES AND LITERATURES				
Spanish Language and Literature		1	3	3
ENGLISH LANGUAGE AND LITERATURE/LETTERS				
English Language and Literature, General		1	7	5
English Composition		1	4	5
BIOLOGICAL SCIENCES/LIFE SCIENCES				
Biology, General		1	2	4
Plant Pathology		1	4	6
Plant Physiology		1	2	1
Microbiology/Bacteriology		2	5	8
Nutritional Sciences		1	1	3
Toxicology		1	2	7
Environmental Biology		1	1	3
Entomology		1	6	3
Pharmacology, Human and Animal		2	1	3
MATHEMATICS				
Mathematics		1	10	4
Mathematical Statistics		1	2	3
MULTI/INTERDISCIPLINARY STUDIES				
Gerontology		1	0	0
PARKS, RECREATION, LEISURE AND FITNESS				
Health and Physical Education, General		1	1	4
PHILOSOPHY AND RELIGION				
Philosophy		1	2	2

DOCTORAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities -- Summary
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	TOTAL DEGREES CONFERRED	
		91/92	95/96
PHYSICAL SCIENCES			
Chemistry, General	2	16	12
Geology	1	4	3
Physics, General	1	4	5
PSYCHOLOGY			
Clinical Psychology	2	15	18
Experimental Psychology	2	7	11
PUBLIC ADMINISTRATION AND SERVICES			
Public Administration	1	2	2
Urban and Public Affairs	1	0	3
SOCIAL SCIENCES AND HISTORY			
Anthropology	1	1	3
Economics, General	1	3	[illegible]
Geography	1	1	2
History	1	3	7
Political Science and Government, General	1	3	1
Sociology	1	4	4
VISUAL AND PERFORMING ARTS			
Art History, Criticism and Conservation	1	0	0
Music, General	1	5	0
Music History and Literature	1	2	3
HEALTH PROFESSIONS AND RELATED SCIENCES			
Medical Anatomy	2	4	4
Medical Biochemistry	2	13	7
Medical Physiology	2	3	4
Visual Sciences	1	0	0
Nursing Science (Post-R.N.)	1	5	5
Medical Pharmacology and Pharmaceutical Sciences	1	13	8
Veterinary Clinical Sciences (M.S., Ph.D.)	1	3	2
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES			
Business, General	1	14	14

DOCTORAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	UK		UL		TOTAL DEGREES CONFERRED	
		92	96	92	96	91/92	95/96
AGRICULTURE BUSINESS AND PRODUCTION / SCIENCES							
Agricultural Economics	1	1	6			1	6
Animal Sciences, General	1	10	8			10	8
Agronomy and Crop Science	1	3	5			3	5
Soil Sciences	1	5	1			5	1
COMMUNICATIONS							
Communications, General	1	1	3			1	3
COMPUTER AND INFORMATION SCIENCES							
Computer and Information Sciences, General	1	1	2			1	2
EDUCATION							
Educational Supervision	1			4	4	4	4
Elementary, Middle and Secondary Education Administration	1			2	9	2	9
Instruction and Administration	1	5	16			5	16
Educational Evaluation and Research	1	3	4			3	4
Educational Assessment, Testing and Measurement	1			1	2	1	2
Educational Policy Studies and Evaluation	1	5	3			5	3
Educational Psychology EdD	1	5	0			5	0
PhD	1	0	11			0	11
Special Education, General	2	2	2	1	0	3	2
Counselor Education/Student Counseling and Guidance Services	2	2	7	1	2	3	9
Vocational Teacher Education	1	0	3			0	3
ENGINEERING							
Agricultural Engineering	1	4	1			4	1
Bioengineering and Biomedical Engineering	1	1	1			1	1
Chemical Engineering	2	3	5	0	5	3	10
Civil Engineering, General	1	2	2			2	2
Electrical, Electronics and Communications Engineering	1	4	3			4	3
Engineering Mechanics	1	1	1			1	1
Industrial/Manufacturing Engineering	1			2	3	2	3
Materials Engineering	1	2	2			2	2
Mechanical Engineering	1	5	6			5	6
Mining and Mineral Engineering	1	0	0			0	0
Computer Science and Engineering	1			1	4	1	4
FOREIGN LANGUAGES AND LITERATURES							
Spanish Language and Literature	1	3	3			3	3
ENGLISH LANGUAGE AND LITERATURE/LETTERS							
English Language and Literature, General	1	7	5			7	5
English Composition	1			4	5	4	5

* Program approved during 5-year period

DOCTORAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	UK		UL		TOTAL DEGREES CONFERRED	
		92	96	92	96	91/92	95/96
BIOLOGICAL SCIENCES/LIFE SCIENCES							
Biology, General	1	2	4			2	4
Plant Pathology	1	4	6			4	6
Plant Physiology	1	2	1			2	1
Microbiology/Bacteriology	2	4	6	1	2	5	8
Nutritional Sciences	1	1	3			1	3
Toxicology	1	2	7			2	7
Environmental Biology	1			1	3	1	3
Entomology	1	6	3			6	3
Pharmacology, Human and Animal	2	1	3	0	0	1	3
MATHEMATICS							
Mathematics	1	10	4			10	4
Mathematical Statistics	1	2	3			2	3
MULTI/INTERDISCIPLINARY STUDIES							
Gerontology	1	0*	0			0	0
PARKS, RECREATION, LEISURE AND FITNESS							
Health and Physical Education, General	1	1	4			1	4
PHILOSOPHY AND RELIGION							
Philosophy	1	2	2			2	2
PHYSICAL SCIENCES							
Chemistry, General	2	8	11	8	1	16	12
Geology	1	4	3			4	3
Physics, General	1	4	5			4	5
PSYCHOLOGY							
Clinical Psychology	2	7	4	8	14	15	18
Experimental Psychology	2	2	5	5	6	7	11
PUBLIC ADMINISTRATION AND SERVICES							
Public Administration	1	2	2			2	2
Urban and Public Affairs	1			0	3	0	3
SOCIAL SCIENCES AND HISTORY							
Anthropology	1	1	3			1	3
Economics, General	1	3	2			3	2
Geography	1	1	2			1	2
History	1	3	7			3	7
Political Science and Government, General	1	3	1			3	1
Sociology	1	4	4			4	4

DOCTORAL PROGRAM DEGREE COMPLETIONS
Kentucky Public Universities
1991/92 and 1995/96

PROGRAM	NUMBER of PROGRAMS	UK		UL		TOTAL DEGREES CONFERRED	
		92	96	92	96	91/92	95/96
VISUAL AND PERFORMING ARTS							
Art History, Criticism and Conservation	1			0	0	0	0
Music, General	1	5	0			5	0
Music History and Literature	1	2	3			2	3
HEALTH PROFESSIONS AND RELATED SCIENCES							
Medical Anatomy	2	2	3	2	1	4	4
Medical Biochemistry	2	9	4	4	3	13	7
Medical Physiology	2	2	2	1	2	3	4
Visual Sciences	1			0*	0	0	0
Nursing Science (Post-R.N.)	1	5	5			5	5
Medical Pharmacology and Pharmaceutical Sciences	1	13	8			13	8
Veterinary Clinical Sciences (M.S., Ph.D.)	1	3	2			3	2
BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES							
Business, General	1	14	14			14	14

* Program approved during 5-year period

COUNCIL ON HIGHER EDUCATION

DEGREES CONFERRED DATA

SET 2

LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Eastern Kentucky University					
Agricultural Business and Production, Other	*	AS	0	2	0
Wildlife and Wildlands Management		BS	7	6	6
Fashion Merchandising		BS	8	4	7
Journalism		BA	12	4	9
Computer and Information Sciences, General		BS	21	3	12
Elementary, Middle and Secondary Education Administration		EdS	1	0	0
College/Postsecondary Student Counseling and Personnel Services		EdS	0	0	0
Art Teacher Education		BA	9	6	8
Home Economics Teacher Education (Vocational)		BS	4	2	3
Technology Teacher Education/Industrial Arts Teacher Education		BS	6	6	6
		MS	18	4	7
Science Teacher Education, General		BS	6	5	5
Earth Science Teacher Education		BS	4	0	3
Technical Teacher Education (Vocational)		AS	8	2	5
Trade and Industrial Teacher Education (Vocational)		BS	9	7	8
Computer Science and Mathematics Teacher Education		BS	3	3	3
Computer Maintenance Technology/Technician		AS	8	6	6
Quality Control Technology/Technician		AS	1	1	1
German Language and Literature	N	BA	1	1	1
French Language and Literature	N	BA	2	2	2
Spanish Language and Literature	N	BA	4	3	3
Housing Studies, General		BA	13	8	12
Child Care Provider/Assistant		AS	5	7	5
Dietician Assistant		AS	3	3	4
Home Furnishings and Equipment Installers and Consultants		AA	5	0	3
Speech and Theatre	N	BA	3	4	2
General Studies		BIS	0	0	0
Microbiology/Bacteriology		BS	5	1	2
Ecology		BS	0	6	4
Mathematics	N	BS	24	7	15
		MS	7	3	5
Mathematical Statistics		BS	3	3	5
Philosophy	N	BA	2	1	3
Chemistry, General		MS	4	1	2
Geology	N	BA/BS	2	4	4
		MS	6	0	3
Physics, General	N	BS	9	6	8
		MS	1	2	1
Corrections/Correctional Administration		AA	6	4	6
Forensic Technology/Technician		BS	7	4	8
Fire Protection and Safety Technology/Technician		C	0	0	1
		AA	8	6	8
Loss Prevention and Safety	*	MS	0	4	6
Anthropology	N	BA	4	8	5
Economics, General	N	BA	1	2	2
Political Science and Government, General		MA	5	2	3
Drafting, General		AS	4	5	5
Printing	*	AS	1	0	0
Aircraft Pilot and Navigator (Professional)	*	BS	1	3	2
Drama/Theater Arts, General	N	BA	1	2	2
		BFA	0	2	1
Fine/Studio Arts		BFA	0	8	4
Music, General	N	BA	4	6	6
		BM	4	0	2
		MM	2	4	3

* Program begun during 5-year period
^ Program inactive during part of 5-year period
N = Nucleus Program
** Doctoral students only admitted into Master's program

LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Sign Language Interpreter		AA	0	1	3
Medical Records Administration		C	1	0	0
		BS	3	7	7
Medical Laboratory Technician		AS	6	8	7
Health and Medical Preparatory Programs, Other		BS	0	0	0
Nursing, General (Post-R.N.)	*	MSN	0	0	0
Occupational Therapy		MS	0	2	2
Office Supervision and Management		BBA	7	2	4
Business/Managerial Economics		BBA	1	3	2
Finance, General		BBA	22	6	16
Real Estate		BBA	13	7	9

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Kentucky State University					
Data Processing Technology/Technician		AAS	3	4	5
Art Teacher Education		BA	1	0	1
Music Teacher Education		BME	1	4	3
Physical Education Teaching and Coaching		BA/BS	4	3	4
Electrical, Electronic and Communications Engineering Technology/Technician		AAS	1	4	3
Clothing/Apparel and Textile Studies		BA	5	3	4
English Language and Literature, General	N	BA	8	4	8
Liberal Arts and Sciences/Liberal Studies		AA	15	3	9
	N	BA	3	4	4
Mathematics	N	BA	9	6	8
Chemistry, General	N	BS	2	0	1
Psychology, General	N	BA	6	2	6
Public Administration		BA	8	7	10
Social Work		BA	6	6	6
Social Sciences, General	N	BA	2	3	2
History	N	BA	1	6	4
Political Science and Government, General	N	BA	3	5	3
Sociology	N	BA	0	2	2
Drafting, General		AAS	2	5	2
Fine/Studio Arts	N	BA	3	1	2
Music, General		BM	0	0	0
Medical Technology		BS	0	0	0
Business Administration and Management, General		BA	10	7	11
Accounting		BA	6	9	10
Executive Assistant/Secretary		AAS	2	5	3
Business/Managerial Economics		BA	1	1	1
Business Marketing and Marketing Management		BA	9	7	8

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Morehead State University					
Agricultural Business/Agribusiness Operations		AAS	0	4	2
Communications, General		BA	15	6	8
Curriculum and Instruction		EdS	1	0	0
Elementary, Middle and Secondary Education Administration		EdS	2	1	1
Counselor Education/Student Counseling and Guidance Services		EdS	0	1	1
Adult and Continuing Teacher Education		EdS	1	0	0
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	*	BS	0	7	3
Agricultural Teacher Education (Vocational)		BS	1	1	2
Art Teacher Education		MA	1	0	0
Business Teacher Education (Vocational)		BBA	13	9	12
Home Economics Teacher Education (Vocational)		BS	3	2	3
Technology Teacher Education/Industrial Arts Teacher Education		BS	7	8	8
Music Teacher Education		MM	3	3	3
Science Teacher Education, General		BS	4	5	5
Trade and Industrial Teacher Education (Vocational)		BS	2	0	1
Math and Physical Sciences Teacher Education		BS	2	1	1
Industrial/Manufacturing Technology/Technician		AS	0	0	2
French Language and Literature	N	BA	3	4	4
Spanish Language and Literature	N	BA	4	3	3
Home Economics, General		BS	1	0	1
Human Sciences (Consolidated Program)	*	AAS	0	0	0
	*	BS	0	0	0
Speech and Rhetorical Studies	N	BA	6	6	7
Speech and Theatre	N	BA	0	0	0
Mathematics and Computer Science		BS	1	4	3
Parks, Recreation and Leisure Facilities Management		BA	8	4	5
Philosophy	N	BA	1	7	5
Chemistry, General	N	BS	2	3	3
Geology	N	BS	1	5	3
Physics, General	N	BS	1	9	4
Psychology, General		MA	1	1	2
Geography	N	BA	12	7	10
Drama/Theater Arts, General	N	BA	3	7	6
Fine/Studio Arts		MA	3	2	5
Music, General	N	BA	9	1	3
		BM	9	3	4
Music - General Performance		MM	2	2	1
Medical Technology		BS	1	6	6
Nursing, General (Post-R.N.)		BSN	0	9	23
Administrative Assistant/Secretarial Science, General	*	BBA	1	5	4
Business/Managerial Economics		BBA	2	4	2
Enterprise Management and Operation, General		AAB	2	6	4
Real Estate		BBA	10	6	9

* Program begun during 5-year period
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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Murray State University					
Agriculture/Agricultural Sciences, General	*	AS	0	0	0
Fishing and Fisheries Sciences and Management		BA/BS	0	0	1
Wildlife and Wildlands Management		BA/BS	0	3	1
Journalism		BA/BS	3	7	4
Computer and Information Sciences, General		BA/BS	15	7	16
Elementary, Middle and Secondary Education Administration		BA/BS	10	7	7
Counselor Education/Student Counseling and Guidance Services		EdS	1	1	0
		MAEd	15	3	9
Elementary Teacher Education		EdS	1	1	2
Junior High/Intermediate/Middle School Teacher Education		EdS	0	0	0
		MAEd	1	1	1
Secondary Teacher Education		EdS	0	0	0
Art Teacher Education		EdS	0	0	0
Business Teacher Education (Vocational)		BA/BS/BFA	4	6	5
Health Teacher Education		BA/BS	9	9	11
Home Economics Teacher Education (Vocational)		BA/BS	4	1	2
Music Teacher Education		BA/BS	1	0	2
		BME	9	8	10
		MME	1	1	4
Trade and Industrial Teacher Education (Vocational)	*	ASVTE	0	2	0
		BSVTE	3	4	4
Teaching English as a Second Language/Foreign Language	*	MA	0	0	0
Engineering Physics		BA/BS	18	7	10
Civil Engineering/Civil Technology/Technician		AS	0	2	1
Electrical, Electronic and Communications Engineering Technology/Technician		AS	3	2	2
Water Quality and Wastewater Treatment Technology/Technician		AS	0	2	1
Industrial/Manufacturing Technology/Technician	*	AS	0	1	0
Manufacturing Technology		BS	10	2	8
Mechanical Engineering/Mechanical Technology/Technician		AS	5	0	4
German Language and Literature	N	BA	3	1	2
French Language and Literature	N	BA	2	2	2
Spanish Language and Literature	N	BA	6	5	8
Housing Studies, General		BA/BS	5	6	6
Individual and Family Development Studies, General		BA/BS	9	5	9
Clothing/Apparel and Textile Studies		BA/BS	10	1	7
Child Care Provider/Assistant		AS	0	4	1
Institutional Food Workers and Administrators		AS	1	2	1
Speech and Rhetorical Studies	N	BA/BS	8	0	4
Liberal Arts and Sciences/Liberal Studies		AA	1	5	3
General Studies		BIS	24	7	13
Library Science/Librarianship		BA/BS	0	2	3
Biology, General		MAT	0	0	0
		MS	3	4	5
Water Science	*	MS	0	0	0
Mathematics	N	BA/BS	18	7	15
		MAT	0	0	0
		MA/MS	0	2	1
Parks, Recreation and Leisure Facilities Management		MA	3	1	2
Philosophy	N	BA/BS	1	1	1
Chemistry, General		MAT	0	0	0
		MS	0	2	3
Geology	N	BA/BS	0	4	3
Earth and Planetary Sciences	N	BA/BS	0	1	0
Physics, General	N	BA/BS	4	3	4
		MAT	0	0	0
		MS	0	0	0

* Program begun during 5-year period
^ Program inactive during part of 5-year period
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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Psychology, General		MA/MS	1	0	0
Criminal Justice Studies		AA	0	3	1
Economics, General	N	BA/BS	0	3	2
Geography	N	BA/BS	2	3	4
		MA/MS	5	4	5
History		MA	1	1	2
International Relations and Affairs	*	BA	0	0	0
Sociology	N	BA/BS	5	6	6
Drafting, General		AS	0	2	1
Graphic Arts		AS	1	3	2
Drama/Theater Arts, General	N	BA/BS	3	0	4
Music, General		BM	0	0	0
Music (Liberal Arts)	N	BA	8	5	7
Medical Technology		BA/BS	1	5	4
Nursing, General (Post-R.N.)		BSN	13	0	4
Business, General		AA	4	5	4
		BA/BS	0	1	2
Business Administration and Management, General		BSB	24	8	14
Office Supervision and Management		BSB	2	3	4
Executive Assistant/Secretary		C	0	1	0
International Business	*	BAB	0	0	0
Management Information Systems and Business Data Processing, General		BSB	4	9	8

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Northern Kentucky University					
Junior High/Intermediate/Middle School Teacher Education		MAEd	0	0	0
Pre-Elementary/Early Childhood/Kingergarten Teacher Education	*	BS	0	0	0
Art Teacher Education		BA	1	9	4
Music Teacher Education		BME	3	7	4
Science Teacher Education, General		BA	1	3	2
Technical Teacher Education (Vocational)		AAS	4	4	4
Trade and Industrial Teacher Education (Vocational)		BS	0	0	0
Math and Physical Sciences Teacher Education		BA	0	1	0
Manufacturing Technology		BS	9	7	9
Manufacturing Engineering Technology		BS	0	4	2
Engineering Technology/Technician, General	*	AAS	0	0	0
French Language and Literature	*N	BA	0	2	2
Spanish Language and Literature	*N	BA	0	4	2
Philosophy	N	BA	6	6	8
Chemistry, General	N	BA/BS	8	7	9
Geology	N	BA/BS	1	6	2
Public Administration		BS	7	9	8
Applied Sociology and Anthropology	N	BS	3	7	5
Drama/Theater Arts, General	N	BA	0	9	6
		BFA	0	8	5
Fine/Studio Arts	N	BA	0	0	1
Music, General	N	BA	3	2	2
		BM	3	4	4
Music - General Performance	*	C	0	0	0
Medical Technology		BS	0	0	0
Operations Management and Supervision		AAS	2	2	2

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
University of Kentucky					
Food Sciences and Technology		BS	4	2	5
Agronomy and Crop Science		MS	2	3	3
Plant and Soil Sciences	*	MS	0	2	0
Soil Sciences		PhD	5	1	2
Natural Resources Conservation, General	*	BS	0	0	0
Forestry Sciences		BSFor	9	9	12
		MSFor	6	3	3
Latin American Studies		BA/BS	3	2	2
Communications, General		PhD	1	3	6
Computer and Information Sciences, General		PhD	1	2	2
Elementary, Middle and Secondary Education Administration		EdS	1	0	0
Higher Education Administration		MS	2	1	2
Educational Evaluation and Research		PhD	3	4	3
Educational Policy Studies and Evaluation		EdD	5	3	3
Educational Psychology		EdS	5	2	3
		EdD	5	0	1
Social and Philosophical Foundations of Education		MS	1	1	2
Special Education, General		EdS	1	1	1
		EdD	2	2	2
Counselor Education/Student Counseling and Guidance Services		EdS	1	1	1
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	^	BS	0	0	0
Art Teacher Education		BA	6	3	5
Health Teacher Education		BA	0	1	0
Music Teacher Education		BA	0	0	0
		MM	3	2	3
Science Teacher Education, General		BA	5	6	5
Trade and Industrial Teacher Education (Vocational)		MA/MS	7	4	4
Vocational Teacher Education	*	MS	0	0	0
		EdD	0	3	2
Agricultural Engineering		MS	5	1	3
		PhD	4	1	1
Bioengineering and Biomedical Engineering		PhD	1	1	1
Civil Engineering, General		PhD	2	2	3
Electrical, Electronics and Communications Engineering		PhD	4	3	3
Engineering Mechanics		MS	4	4	3
		PhD	1	1	1
Manufacturing Systems Engineering	*	MS	0	3	1
Materials Engineering		MS	4	2	4
		PhD	2	2	2
Mining and Mineral Engineering		BS	6	4	8
		MMinE/MS	6	2	5
		PhD	0	0	1
Individualized Engineering Program	*	MEng	9	0	6
Linguistics		BA/BS	6	4	3
Russian Language and Literature		BA/BS	6	5	6
German Language and Literature	N	BA/BS	2	3	3
		MA	3	4	4
French Language and Literature	N	BA/BS	19	6	13
Italian Language and Literature		BA/BS	0	0	0
Spanish Language and Literature		PhD	3	3	4
Classics and Classical Languages and Literatures		BA/BS	3	3	3
		MA	2	3	2
Foods and Nutrition Science	*	BS	0	0	0
Speech and Theatre	N	BA	0	1	0

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Biology, General		PhD	2	4	3
Plant Pathology		MS	3	1	1
Plant Physiology		PhD	2	1	2
Agricultural Biotechnology	*	BS	0	0	0
Microbiology/Bacteriology		MS	0	2	2
Nutritional Sciences		PhD	1	3	2
Toxicology		MS	1	4	3
Entomology		MS	1	3	3
		PhD	6	3	3
Pharmacology, Human and Animal		MS	2	2	1
		PhD	1	3	2
Mathematics		PhD	10	4	5
Mathematical Statistics		PhD	2	3	3
Gerontology	*	PhD	0	0	0
Historic Preservation, Conservation and Architectural History	*	MHP	0	0	0
Foreign Languages and International Economics	*	BA	0	1	1
Agriculture/Home Economics Education, Communication, Leadership	*	BS	0	0	0
Health and Physical Education, General		EdD	0	2	0
Philosophy		MA	3	4	5
		PhD	2	2	2
Geology	N	BS	9	8	9
		PhD	4	3	3
Physics, General	N	BA/BS	4	7	5
		MS	4	0	6
Clinical Psychology		PhD	7	4	6
Public Administration		PhD	2	2	1
Anthropology		MA	6	4	5
		PhD	1	3	2
Economics, General		PhD	3	2	4
Geography		MA	4	3	4
		PhD	1	2	3
Political Science and Government, General		PhD	3	1	3
Sociology		PhD	4	4	5
Interior Design, Merchandising, and Textiles	*	MA/MS	0	0	0
Drama/Theater Arts, General		BFA	0	8	4
	N	BA	10	8	9
Fine/Studio Arts		BFA	0	8	7
		MFA	3	4	4
Art History, Criticism and Conservation		MA	2	1	2
Arts Management		BA	7	9	8
Music, General		DMA	5	0	3
Music History and Literature		BA	3	5	3
		MA	0	0	0
		PhD	2	3	3
Individualized Studies		BA	1	3	2
Dental Clinical Sciences/Graduate Dentistry (M.S., Ph.D.)	*	MS	3	2	3
Radiation Science		MS	3	0	4
Medical Anatomy		MS	0	0	0
		PhD	2	3	2
Medical Biochemistry		MS	0	0	0
		PhD	9	4	4
Medical Physiology		MS	0	2	1
		PhD	2	2	3
Public Health, General		MSPH	5	4	8
Physical Therapy		MS	3	2	2
Pre-Physical Therapy	*	BHS	0	0	0
Veterinary Clinical Sciences (M.S., Ph.D.)		MS	2	1	1
		PhD	3	2	2

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
University of Louisville					
Russian and Slavic Area Studies		BA	0	1	3
Afro-American (Black) Studies		BA/BS	1	4	2
Women's Studies	*	BA	0	0	0
Educational Supervision		EdS	0	0	0
		EdD	4	4	3
Elementary, Middle and Secondary Education Administration		EdS	0	1	0
Higher Education Administration		EdS	0	0	0
Educational Assessment, Testing and Measurement		EdD	1	2	1
Special Education, General		EdD	1	0	1
Counselor Education/Student Counseling and Guidance Services		EdS	0	2	1
		EdD	1	2	3
Elementary Teacher Education		EdS	0	0	0
Pre-Elementary/Early Childhood/Kindergarten Teacher Education		MEd	11	3	8
Business Teacher Education (Vocational)		MAT	6	3	3
Foreign Languages Teacher Education		MA	1	4	2
Music Teacher Education		MMEd	3	4	3
Health Occupations Teacher Education (Vocational)		BS	7	7	7
Chemical Engineering		MS	0	0	2
Civil Engineering, General		MS	0	4	2
Computer Engineering		MS	0	0	0
Industrial/Manufacturing Engineering		PhD	2	3	2
Mechanical Engineering		MS	0	4	1
Computer Science and Engineering		PhD	1	4	4
Linguistics		MA	5	2	3
Russian Language and Literature		BA	2	3	3
German Language and Literature	N	BA	3	1	3
		MA	0	0	0
French Language and Literature	N	BA	7	8	8
		MA	5	0	2
Humanities and Social Sciences		MA	3	1	2
Biology, General		MS	5	4	6
Microbiology/Bacteriology		MS	2	0	1
		PhD	1	2	2
Environmental Biology		PhD	1	3	4
Pharmacology, Human and Animal		MS	1	0	0
		PhD	0	0	1
Interdisciplinary Studies		MA/MS	2	1	2
Philosophy	N	BA	10	6	9
		MA	1	4	2
Chemistry, General		MS	0	2	3
		PhD	8	1	5
Physics, General	N	BA/BS	3	3	3
		MS	6	2	4
Clinical Psychology		MA**	0	0	0
Experimental Psychology		MA**	0	0	0
Criminal Justice/Law Enforcement Administration		MS	6	2	4
Urban and Public Affairs		PhD	0	3	3
Geography	N	BA	12	1	12
	*N	BS	0	0	3

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BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Interior Design		BS	18	8	12
Drama/Theater Arts, General	N	BA	0	6	4
		BFA	0	1	2
		MFA	5	2	2
Fine/Studio Arts		MA	5	0	1
		BFA	0	5	5
Art History, Criticism and Conservation		MA	8	2	4
		BA	9	9	11
		MA	3	1	3
Music History and Literature		PhD	0	0	0
		BA	2	1	1
		BM	0	0	0
		MA	0	0	0
Music - General Performance		MM	0	0	0
Music Theory and Composition		BM	7	4	6
		BM	0	0	1
Dental Hygienist		MM	0	0	1
Respiratory Therapy Technician		BS	0	0	0
Cytotechnologist		BHS	2	1	2
		C	3	0	2
Medical Technology		BHS	4	6	5
		C	11	0	7
Health and Medical Preparatory Programs, Other		BS/BHS	4	2	3
Medical Anatomy		BS	4	2	4
		MS	4	4	2
Medical Biochemistry		PhD	2	1	2
		MS	0	0	0
Medical Physiology		PhD	4	3	4
		MS	1	2	1
Visual Sciences		PhD	1	2	2
Nursing, General (Post-R.N.)	*	PhD	0	0	0
Equine Administration		BSN	0	0	0
	*	C	0	0	0
Business/Managerial Economics		BSBA	7	4	8
		BS	12	3	8

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM		DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Western Kentucky University					
Agricultural Production Workers and Managers, General		AS	1	5	4
General Retailing Operations		AA	3	4	3
Elementary, Middle and Secondary Education Administration		EdS	1	0	1
Counselor Education/Student Counseling and Guidance Services		EdS	3	0	2
Elementary Teacher Education		EdS	0	0	0
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	*	MAEd	0	3	5
Secondary Teacher Education		EdS	0	0	0
Agricultural Teacher Education (Vocational)	*	BS	0	0	0
		MAEd	3	3	2
Art Teacher Education		BA	2	2	4
		MAEd	2	2	1
Business Teacher Education (Vocational)		MAEd	6	2	2
English Teacher Education		MAEd	4	4	3
Foreign Languages Teacher Education		MAEd	0	0	0
Health Teacher Education		BS	1	0	2
Home Economics Teacher Education (Vocational)		BS	6	5	4
Physical Education Teaching and Coaching		MAEd/MS	2	2	2
Science Teacher Education, General		BS	3	2	2
Technical Teacher Education (Vocational)		AS	9	2	5
Trade and Industrial Teacher Education (Vocational)		BS	1	3	3
Math and Physical Sciences Teacher Education		BS	0	1	0
Civil Engineering/Civil Technology/Technician		BS	10	9	9
Electromechanical Technology/Technician		BS	3	3	2
Environmental and Pollution Control Technology/Technician	^	BS	0	4	1
Manufacturing Technology		AS	3	1	1
German Language and Literature	N	BA	3	3	4
French Language and Literature	N	BA	5	4	5
Spanish Language and Literature	N	BA	13	2	8
Foods and Nutrition Studies, General		BS	2	7	4
Humanities and Social Sciences		MA	2	3	3
Library Science/Librarianship		BA	10	3	7
Biochemistry		BS	6	3	5
Mathematics		MS	3	2	3
Interdisciplinary Studies		BA/BS	0	2	0
Interdisciplinary Administration	*	MA	0	0	0
Philosophy	N	BA	5	2	4
Chemistry, General		MS	3	4	5
Physics, General	N	BS	12	7	9
Meteorological Technology		AS	2	2	2
Anthropology	N	BA	4	6	6
Geography		MS	2	2	4
Cartography		AS	0	1	1
Sociology		MA	9	1	5
Architectural Drafting		AS	2	6	3
Technical Illustration		AS	5	0	3
Visual and Performing Arts		BFA	1	5	5
Graphic Design, Commercial Art and Illustration		BFA	0	7	5
Drama/Theater Arts, General		BFA	0	2	2
	N	BA	0	7	4
Fine/Studio Arts		BFA	0	4	2
Music, General		BM	0	2	1
Music (Liberal Arts)	N	BA	3	4	5
Speech Pathology and Audiology		BS	8	1	4
Medical Records Technology/Technician		AS	11	7	10
Medical Technology		BS	5	3	4
Nursing, General (Post-R.N.)	*	MSN	0	0	0

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LOW PERFORMANCE PROGRAMS
BY UNIVERSITY AND BY PROGRAM

PROGRAM	DEGREE	DEGREE COMPLETIONS 1991/92	1995/96	5-YEAR AVERAGE
Business, General	MBA	0	0	0
Business/Managerial Economics	BS	7	4	5
Banking and Financial Support Services	AA	9	5	10
Real Estate	C	0	0	0
	AA	3	0	3

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LOW PERFORMANCE PROGRAMS

(by Institution)

University of Kentucky Community College System

INST	PROGRAM	DEGREE	DEGREES CONFERRED 1991/92	1995/96	5-YEAR AVERAGE
ACC	Electrical, Electronic and Communications Engineering Technology/Technician	AAS	2	1	2
	Accounting Technician	AAS	15	7	13
ELCC	* Quality Technology	AAS	0	5	1
HazCC	* Forest Harvesting and Production Technology/Technician	AAS	0	0	0
	* Data Processing Technology/Technician	AAS	0	0	0
	* Medical Laboratory Technician	AAS	0	7	5
	Business Administration and Management, General	AAS	15	8	11
HenCC	Electrical, Electronic and Communications Engineering Technology/Technician	AAS	0	2	0
	Business Administration and Management, General	AAS	10	7	8
HopCC	Electromechanical Technology/Technician	AAS	0	3	3
	* Child Care Provider/Assistant	AAS	0	1	0
JCC	Culinary Arts/Chef Training	AAS	3	2	6
	Electrical, Electronic and Communications Engineering Technology/Technician	AAS	5	4	5
	Electromechanical Technology/Technician	AAS	5	9	6
	Automotive Engineering Technology/Technician	AAS	9	0	4
	* Mechanical Engineering/Mechanical Technology/Technician	AAS	0	3	1
	* Occupational Therapy Assistant	AAS	0	0	0
	* Quality Technology	AAS	0	0	0
	Real Estate	AAS	9	5	8
LCC	Electrical, Electronic and Communications Engineering Technology/Technician	AAS	21	6	11
	* Environmental Science Technology	AAS	0	0	0
	Dental Laboratory Technician	AAS	7	9	11
	Nuclear Medical Technology/Technician	AAS	4	5	5
	Accounting Technician	AAS	8	7	10
MadCC	Electrical, Electronic and Communications Engineering Technology/Technician	AAS	0	1	2
	Biomedical Engineering-Related Technology/Technician	AAS	4	5	5
	Mechanical Engineering/Mechanical Technology/Technician	AAS	0	1	1
	* Law Enforcement/Police Science	AAS	0	2	0
	Medical Radiologic Technology/Technician	AAS	2	4	3
	Respiratory Therapy Technician	AAS	6	6	5
MayCC	* Environmental Science Technology	AAS	0	1	3
OCC	Electrical, Electronic and Communications Engineering Technology/Technician	AAS	0	9	5
	Mechanical Engineering/Mechanical Technology/Technician	AAS	0	0	0
	* Law Enforcement/Police Science	AAS	0	0	0
PadCC	* Engineering Technology/Technician, General	AAS	0	0	0
	Executive Assistant/Secretary	AAS	12	4	10
PreCC	* Dental Hygienist	AAS	0	0	0
SomCC	^ Physical Therapy Assistant	AAS	17	0	3
	Medical Laboratory Technician	AAS	10	9	12
SouCC	Computer Maintenance Technology/Technician	AAS	9	3	5
	Mining Operations	AAS	3	3	3
	* Medical Radiologic Technology/Technician	AAS	0	5	1
	* Respiratory Therapy Technician	AAS	0	4	2

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^ Program inactive during part of 5-year period

Low Performance Programs

(by program)

University of Kentucky Community College System

PROGRAM	DEGREE	INST	DEGREE COMPLETIONS		
			1991/92	1995/96	5-YEAR AVERAGE
Forest Harvesting and Production Technology/Technician	AAS	* HazCC	0	0	0
Data Processing Technology/Technician	AAS	* HazCC	0	0	0
Culinary Arts/Chef Training	AAS	JCC	3	2	6
Electrical, Electronic and Communications Engineering Technology/Technician	AAS	ACC	2	1	2
	AAS	HenCC	0	2	0
	AAS	JCC	5	4	5
	AAS	LCC	21	6	11
	AAS	MadCC	0	1	2
	AAS	OCC	0	9	5
Biomedical Engineering-Related Technology/Technician	AAS	MadCC	4	5	5
Computer Maintenance Technology/Technician	AAS	SouCC	9	3	5
Electromechanical Technology/Technician	AAS	HopCC	0	3	3
	AAS	JCC	5	9	6
Environmental Science Technology	AAS	* LCC	0	0	0
	AAS	* MayCC	0	1	3
Automotive Engineering Technology/Technician	AAS	JCC	9	0	4
Mechanical Engineering/Mechanical Technology/Technician	AAS	* JCC	0	3	1
	AAS	MadCC	0	1	1
	AAS	OCC	0	0	0
Mining Operations	AAS	SouCC	3	3	3
Engineering Technology/Technician, General	AAS	* PadCC	0	0	0
Child Care Provider/Assistant	AAS	* HopCC	0	1	0
Law Enforcement/Police Science	AAS	* MadCC	0	2	0
	AAS	* OCC	0	0	0
Dental Hygienist	AAS	* PreCC	0	0	0
Dental Laboratory Technician	AAS	LCC	7	9	11
Occupational Therapy Assistant	AAS	* JCC	0	0	0
Physical Therapy Assistant	AAS	^ SomCC	17	0	3
Nuclear Medical Technology/Technician	AAS	LCC	4	5	5
Medical Radiologic Technology/Technician	AAS	MadCC	2	4	3
	AAS	* SouCC	0	5	1
Respiratory Therapy Technician	AAS	MadCC	6	6	5
	AAS	* SouCC	0	4	2
Medical Laboratory Technician	AAS	* HazCC	0	7	5
	AAS	SomCC	10	9	12
Business Administration and Management, General	AAS	HazCC	15	8	11
	AAS	HenCC	10	7	8
Accounting Technician	AAS	ACC	15	7	13
	AAS	LCC	8	7	10
Executive Assistant/Secretary	AAS	PadCC	12	4	10
Quality Technology	AAS	* ELCC	0	5	1
	AAS	* JCC	0	0	0
Real Estate	AAS	JCC	9	5	8

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LOW PERFORMANCE PROGRAMS
BY LEVEL AND BY PROGRAM

PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Associate Programs						
Agricultural Business/Agribusiness Operations	AAS		MoSU	0	4	2
Agricultural Production Workers and Managers, General	AS		WKU	1	5	4
Agricultural Business and Production, Other	AS	*	EKU	0	2	0
Agriculture/Agricultural Sciences, General	AS	*	MuSU	0	0	0
Forest Harvesting and Production Technology/Technician	AAS	*	HazCC	0	0	0
General Retailing Operations	AA		WKU	3	4	3
Data Processing Technology/Technician	AAS	*	HazCC	0	0	0
	AAS		KSU	3	4	5
Culinary Arts/Chef Training	AAS		JCC	3	2	6
Technical Teacher Education (Vocational)	AS		EKU	8	2	5
	AAS		NKU	4	4	4
	AS		WKU	9	2	5
Trade and Industrial Teacher Education (Vocational)	ASVTE	*	MuSU	0	2	0
Civil Engineering/Civil Technology/Technician	AS		MuSU	0	2	1
Electrical, Electronic and Communications Engineering Technology/Technician	AAS		ACC	2	1	2
	AAS		HenCC	0	2	0
	AAS		JCC	5	4	5
	AAS		KSU	1	4	3
	AAS		LCC	21	6	11
	AAS		MadCC	0	1	2
	AS		MuSU	3	2	2
	AAS		OCC	0	9	5
Biomedical Engineering-Related Technology/Technician	AAS		MadCC	4	5	5
Computer Maintenance Technology/Technician	AS		EKU	8	6	6
	AAS		SouCC	9	3	5
Electromechanical Technology/Technician	AAS		HopCC	0	3	3
	AAS		JCC	5	9	6
Water Quality and Wastewater Treatment Technology/Technician	AS		MuSU	0	2	1
Environmental Science-Technology	AAS	*	LCC	0	0	0
	AAS	*	MayCC	0	1	3
Industrial/Manufacturing Technology/Technician	AS		MoSU	0	0	2
	AS	*	MuSU	0	1	0
Manufacturing Technology	AS		WKU	3	1	1
Quality Control Technology/Technician	AS		EKU	1	1	1
Automotive Engineering Technology/Technician	AAS		JCC	9	0	4
Mechanical Engineering/Mechanical Technology/Technician	AAS	*	JCC	0	3	1
	AAS		MadCC	0	1	1
	AS		MuSU	5	0	4
Mining Operations	AAS		OCC	0	0	0
Engineering Technology/Technician, General	AAS		SouCC	3	3	3
	AAS	*	NKU	0	0	0
Human Sciences (Consolidated Program)	AAS	*	PadCC	0	0	0
Child Care Provider/Assistant	AAS	*	MoSU	0	0	0
	AS		EKU	5	7	5
	AAS	*	HopCC	0	1	0
Institutional Food Workers and Administrators	AS		MuSU	0	4	1
Dietician Assistant	AS		MuSU	1	2	1
Home Furnishings and Equipment Installers and Consultants	AS		EKU	3	3	4
Liberal Arts and Sciences/Liberal Studies	AA		EKU	5	0	3
	AA		KSU	15	3	9
Meteorological Technology	AA		MuSU	1	5	3
Corrections/Correctional Administration	AS		WKU	2	2	2
Criminal Justice Studies	AA		EKU	6	4	6
Law Enforcement/Police Science	AA		MuSU	0	3	1
	AAS	*	MadCC	0	2	0
Fire Protection and Safety Technology/Technician	AAS	*	OCC	0	0	0
	AA		EKU	8	6	8

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LOW PERFORMANCE PROGRAMS
BY LEVEL AND BY PROGRAM

PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Cartography	AS		WKU	0	1	1
Drafting, General	AS		EKU	4	5	5
	AAS		KSU	2	5	2
	AS		MuSU	0	2	1
Architectural Drafting	AS		WKU	2	6	3
Technical Illustration	AS		WKU	5	0	3
Printing	AS	*	EKU	1	0	0
Graphic Arts	AS		MuSU	1	3	2
Sign Language Interpreter	AA		EKU	0	1	3
Dental Hygienist	AAS	*	PreCC	0	0	0
Dental Laboratory Technician	AAS		LCC	7	9	11
Medical Records Technology/Technician	AS		WKU	11	7	10
Occupational Therapy Assistant	AAS	*	JCC	0	0	0
Physical Therapy Assistant	AAS	^	SomCC	17	0	3
Nuclear Medical Technology/Technician	AAS		LCC	4	5	5
Medical Radiologic Technology/Technician	AAS		MadCC	2	4	3
	AAS	*	SouCC	0	5	1
Respiratory Therapy Technician	AAS		MadCC	6	6	5
	AAS	*	SouCC	0	4	2
Medical Laboratory Technician	AS		EKU	6	8	7
	AAS	*	HazCC	0	7	5
	AAS		SomCC	10	9	12
Business, General	AA		MuSU	4	5	4
Business Administration and Management, General	AAS		HazCC	15	8	11
	AAS		HenCC	10	7	8
Operations Management and Supervision	AAS		NKU	2	2	2
Accounting Technician	AAS		ACC	15	7	13
	AAS		LCC	8	7	10
Executive Assistant/Secretary	AAS		KSU	2	5	3
	AAS		PadCC	12	4	10
Enterprise Management and Operation, General	AAB		MoSU	2	6	4
Banking and Financial Support Services	AA		WKU	9	5	10
Quality Technology	AAS	*	ELCC	0	5	1
	AAS	*	JCC	0	0	0
Real Estate	AAS		JCC	9	5	8
	AA		WKU	3	0	3

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Baccalaureate Programs						
Agriculture/Agricultural Sciences, General	BA/BS		MuSU	0	0	1
Food Sciences and Technology	BS		UK	4	2	5
Natural Resources Conservation, General	BS	*	UK	0	0	0
Fishing and Fisheries Sciences and Management	BA/BS		MuSU	0	3	1
Forestry Sciences	BSFor		UK	9	9	12
Wildlife and Wildlands Management	BS		EKU	7	6	6
	BA/BS		MuSU	3	7	4
Latin American Studies	BA/BS		UK	3	2	2
Russian and Slavic Area Studies	BA		UL	0	1	3
Afro-American (Black) Studies	BA/BS		UL	1	4	2
Women's Studies	BA	*	UL	0	0	0
Fashion Merchandising	BS		EKU	8	4	7
Communications, General	BA		MoSU	15	6	8
Journalism	BA		EKU	12	4	9
	BA/BS		MuSU	15	7	16
Computer and Information Sciences, General	BS		EKU	21	3	12
	BA/BS		MuSU	10	7	7
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	BS	*	MoSU	0	7	3
	BS	*	NKU	0	0	0
	BS	^	UK	0	0	0
Agricultural Teacher Education (Vocational)	BS		MoSU	1	1	2
	BS	*	WKU	0	0	0
Art Teacher Education	BA		EKU	9	6	8
	BA		KSU	1	0	1
	BA/BS/BFA		MuSU	4	6	5
	BA		NKU	1	9	4
	BA		UK	6	3	5
	BA		WKU	2	2	4
Business Teacher Education (Vocational)	BBA		MoSU	13	9	12
	BA/BS		MuSU	9	9	11
Health Teacher Education	BA/BS		MuSU	4	1	2
	BA		UK	0	1	0
	BS		WKU	1	0	2
Home Economics Teacher Education (Vocational)	BS		EKU	4	2	3
	BS		MoSU	3	2	3
	BA/BS		MuSU	1	0	2
	BS		WKU	6	5	4
Technology Teacher Education/Industrial Arts Teacher Education	BS		EKU	6	6	6
	BS		MoSU	7	8	8
Music Teacher Education	BME		KSU	1	4	3
	BME		MuSU	9	8	10
	BME		NKU	3	7	4
	BA		UK	0	0	0
Physical Education Teaching and Coaching	BA/BS		KSU	4	3	4
Science Teacher Education, General	BS		EKU	6	5	5
	BS		MoSU	4	5	5
	BA		NKU	1	3	2
	BA		UK	5	6	5
	BS		WKU	3	2	2
Earth Science Teacher Education	BS		EKU	4	0	3
Trade and Industrial Teacher Education (Vocational)	BS		EKU	9	7	8
	BS		MoSU	2	0	1
	BSVTE		MuSU	3	4	4
	BS		NKU	0	0	0
	BS		WKU	1	3	3
	BS		UL	7	7	7
Math and Physical Sciences Teacher Education	BS		MoSU	2	1	1
	BA		NKU	0	1	0
	BS		WKU	0	1	0

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Computer Science and Mathematics Teacher Education	BS		EKU	3	3	3
Engineering Physics	BA/BS		MuSU	18	7	10
Mining and Mineral Engineering	BS		UK	6	4	8
Civil Engineering/Civil Technology/Technician	BS		WKU	10	9	9
Electromechanical Technology/Technician	BS		WKU	3	3	2
Environmental and Pollution Control Technology/Technician	BS	^	WKU	0	4	1
Manufacturing Technology	BS		MuSU	10	2	8
	BS		NKU	9	7	9
Manufacturing Engineering Technology	BS		NKU	0	4	2
Linguistics	BA/BS		UK	6	4	3
Russian Language and Literature	BA/BS		UK	6	5	6
	BA		UL	2	3	3
German Language and Literature	BA	N	EKU	1	1	1
	BA	N	MuSU	3	1	2
	BA/BS	N	UK	2	3	3
	BA	N	UL	3	1	3
	BA	N	WKU	3	3	4
French Language and Literature	BA	N	EKU	2	2	2
	BA	N	MoSU	3	4	4
	BA	N	MuSU	2	2	2
	BA	*N	NKU	0	2	2
	BA/BS	N	UK	19	6	13
	BA	N	UL	7	8	8
	BA	N	WKU	5	4	5
Italian Language and Literature	BA/BS		UK	0	0	0
Spanish Language and Literature	BA	N	EKU	4	3	3
	BA	N	MoSU	4	3	3
	BA	N	MuSU	6	5	8
	BA	*N	NKU	0	4	2
	BA	N	WKU	13	2	8
Classics and Classical Languages and Literatures	BA/BS		UK	3	3	3
Home Economics, General	BS		MoSU	1	0	1
Foods and Nutrition Studies, General	BS		WKU	2	7	4
Foods and Nutrition Science	BS	*	UK	0	0	0
Housing Studies, General	BA		EKU	13	8	12
	BA/BS		MuSU	5	6	6
Individual and Family Development Studies, General	BA/BS		MuSU	9	5	9
Clothing/Apparel and Textile Studies	BA		KSU	5	3	4
	BA/BS		MuSU	10	1	7
Human Sciences (Consolidated Program)	BS	*	MoSU	0	0	0
English Language and Literature, General	BA	N	KSU	8	4	8
Speech and Rhetorical Studies	BA	N	MoSU	6	6	7
	BA/BS	N	MuSU	8	0	4
Speech and Theatre	BA	N	EKU	3	4	2
	BA	N	MoSU	0	0	0
	BA	N	UK	0	1	0
Liberal Arts and Sciences/Liberal Studies	BA	N	KSU	3	4	4
General Studies	BIS		EKU	0	0	0
	BIS		MuSU	24	7	13
Library Science/Librarianship	BA/BS		MuSU	0	2	3
	BA		WKU	10	3	7
Biochemistry	BS		WKU	6	3	5
Agricultural Biotechnology	BS	*	UK	0	0	0
Microbiology/Bacteriology	BS		EKU	5	1	2
Ecology	BS		EKU	0	6	4
Mathematics	BS	N	EKU	24	7	15
	BA	N	KSU	9	6	8
	BA/BS	N	MuSU	18	7	15
Mathematical Statistics	BS		EKU	3	3	5
Mathematics and Computer Science	BS		MoSU	1	4	3

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Interdisciplinary Studies	BA/BS		WKU	0	2	0
Foreign Languages and International Economics	BA	*	UK	0	1	1
Agriculture/Home Economics Education, Communication, Leadership	BS	*	UK	0	0	0
Parks, Recreation and Leisure Facilities Management	BA		MoSU	8	4	5
Philosophy	BA	N	EKU	2	1	3
	BA	N	MoSU	1	7	5
	BA/BS	N	MuSU	1	1	1
	BA	N	NKU	6	6	8
	BA	N	UL	10	6	9
	BA	N	WKU	5	2	4
Chemistry, General	BS	N	KSU	2	0	1
	BS	N	MoSU	2	3	3
	BA/BS	N	NKU	8	7	9
Geology	BA/BS	N	EKU	2	4	4
	BS	N	MoSU	1	5	3
	BA/BS	N	MuSU	0	4	3
	BA/BS	N	NKU	1	6	2
	BS	N	UK	9	8	9
Earth and Planetary Sciences	BA/BS	N	MuSU	0	1	0
Physics, General	BS	N	EKU	9	6	8
	BS	N	MoSU	1	9	4
	BA/BS	N	MuSU	4	3	4
	BA/BS	N	UK	4	7	5
	BA/BS	N	UL	3	3	3
	BS	N	WKU	12	7	9
Psychology, General	BA	N	KSU	6	2	6
Forensic Technology/Technician	BS		EKU	7	4	8
Public Administration	BA		KSU	8	7	10
	BS		NKU	7	9	8
Social Work	BA		KSU	6	6	6
Social Sciences, General	BA	N	KSU	2	3	2
Anthropology	BA	N	EKU	4	8	5
	BA	N	WKU	4	6	6
Economics, General	BA	N	EKU	1	2	2
	BA/BS	N	MuSU	0	3	2
Geography	BA	N	MoSU	12	7	10
	BA/BS	N	MuSU	2	3	4
	BA	N	UL	12	1	12
	BS	*N	UL	0	0	3
History	BA	N	KSU	1	6	4
International Relations and Affairs	BA	*	MuSU	0	0	0
Political Science and Government, General	BA	N	KSU	3	5	3
Sociology	BA	N	KSU	0	2	2
	BA/BS	N	MuSU	5	6	6
Applied Sociology and Anthropology	BS	N	NKU	3	7	5
Aircraft Pilot and Navigator (Professional)	BS	*	EKU	1	3	2
Visual and Performing Arts	BFA		WKU	1	5	5
Graphic Design, Commercial Art and Illustration	BFA		WKU	0	7	5
Interior Design	BS		UL	18	8	12
Drama/Theater Arts, General	BA	N	EKU	1	2	2
	BFA		EKU	0	2	1
	BA	N	MoSU	3	7	6
	BA/BS	N	MuSU	3	0	4
	BA	N	NKU	0	9	6
	BFA		NKU	0	8	5
	BFA		UK	0	8	4
	BA	N	UK	10	8	9
	BA	N	UL	0	6	4
	BFA		UL	0	1	2
	BFA		WKU	0	2	2
	BA	N	WKU	0	7	4

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Fine/Studio Arts	BFA		EKU	0	8	4
	BA	N	KSU	3	1	2
	BA	N	NKU	0	0	1
	BFA		UK	0	8	7
	BFA		UL	0	5	5
	BFA		WKU	0	4	2
Art History, Criticism and Conservation	BA		UL	9	9	11
Arts Management	BA		UK	7	9	8
Music, General	BA	N	EKU	4	6	6
	BM		EKU	4	0	2
	BM		KSU	0	0	0
	BA	N	MoSU	9	1	3
	BM		MoSU	9	3	4
	BM		MuSU	0	0	0
	BA	N	NKU	3	2	2
	BM		NKU	3	4	4
	BM		WKU	0	2	1
Music History and Literature	BA		UK	3	5	3
	BA		UL	2	1	1
	BM		UL	0	0	0
Music - General Performance	BM		UL	7	4	6
Music Theory and Composition	BM		UL	0	0	1
Music (Liberal Arts)	BA	N	MuSU	8	5	7
	BA	N	WKU	3	4	5
Individualized Studies	BA		UK	1	3	2
Speech Pathology and Audiology	BS		WKU	8	1	4
Dental Hygienist	BS		UL	0	0	0
Medical Records Administration	BS		EKU	3	7	7
Respiratory Therapy Technician	BHS		UL	2	1	2
Cytotechnologist	BHS		UL	4	6	5
Medical Technology	BS		KSU	0	0	0
	BS		MoSU	1	6	6
	BA/BS		MuSU	1	5	4
	BS		NKU	0	0	0
	BS/BHS		UL	4	2	3
	BS		WKU	5	3	4
Health and Medical Preparatory Programs, Other	BS		EKU	0	0	0
	BS		UL	4	2	4
Nursing, General (Post-R.N.)	BSN		MoSU	0	9	23
	BSN		MuSU	13	0	4
	BSN		UL	0	0	0
Pre-Physical Therapy	BHS	*	UK	0	0	0
Business, General	BA/BS		MuSU	0	1	2
Business Administration and Management, General	BA		KSU	10	7	11
	BSB		MuSU	24	8	14
Office Supervision and Management	BBA		EKU	7	2	4
	BSB		MuSU	2	3	4
Equine Administration	BSBA		UL	7	4	8
Accounting	BA		KSU	6	9	10
Administrative Assistant/Secretarial Science, General	BBA	*	MoSU	1	5	4
Business/Managerial Economics	BBA		EKU	1	3	2
	BA		KSU	1	1	1
	BBA		MoSU	2	4	2
	BS		UL	12	3	8
	BS		WKU	7	4	5
Finance, General	BBA		EKU	22	6	16
International Business	BAB	*	MuSU	0	0	0
Management Information Systems and Business Data Processing, General	BSB		MuSU	4	9	8
Business Marketing and Marketing Management	BA		KSU	9	7	8
Real Estate	BBA		EKU	13	7	9
	BBA		MoSU	10	6	9

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Certificate Programs						
Fire Protection and Safety Technology/Technician	C		EKU	0	0	1
Music - General Performance	C	*	NKU	0	0	0
Medical Records Administration (Post Baccalaureate)	C		EKU	1	0	0
Cytotechnologist (Post Baccalaureate)	C		UL	3	0	2
Medical Technology (Post Baccalaureate)	C		UL	11	0	7
Equine Administration (Post Baccalaureate)	C	*	UL	0	0	0
Executive Assistant/Secretary	C		MuSU	0	1	0
Real Estate	C		WKU	0	0	0

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Master's Programs						
Agronomy and Crop Science	MS		UK	2	3	3
Plant and Soil Sciences	MS	*	UK	0	2	0
Forestry Sciences	MSFor		UK	6	3	3
Higher Education Administration	MS		UK	2	1	2
Social and Philosophical Foundations of Education	MS		UK	1	1	2
Counselor Education/Student Counseling and Guidance Services	MAEd		MuSU	15	3	9
Junior High/Intermediate/Middle School Teacher Education	MAEd		MuSU	1	1	1
	MAEd		NKU	0	0	0
Pre-Elementary/Early Childhood/Kindergarten Teacher Education	MEd		UL	11	3	8
	MAEd	*	WKU	0	3	5
Agricultural Teacher Education (Vocational)	MAEd		WKU	3	3	2
Art Teacher Education	MA		MoSU	1	0	0
	MAEd		WKU	2	2	1
Business Teacher Education (Vocational)	MAT		UL	6	3	3
	MAEd		WKU	6	2	2
English Teacher Education	MAEd		WKU	4	4	3
Foreign Languages Teacher Education	MA		UL	1	4	2
	MAEd		WKU	0	0	0
Technology Teacher Education/Industrial Arts Teacher Education	MS		EKU	18	4	7
Music Teacher Education	MM		MoSU	3	3	3
	MME		MuSU	1	1	4
	MM		UK	3	2	3
	MMEd		UL	3	4	3
Physical Education Teaching and Coaching	MAEd/MS		WKU	2	2	2
Trade and Industrial Teacher Education (Vocational)	MA/MS		UK	7	4	4
Vocational Teacher Education	MS	*	UK	0	0	0
Teaching English as a Second Language/Foreign Language	MA	*	MuSU	0	0	0
Agricultural Engineering	MS		UK	5	1	3
Chemical Engineering	MS		UL	0	0	2
Civil Engineering, General	MS		UL	0	4	2
Computer Engineering	MS		UL	0	0	0
Engineering Mechanics	MS		UK	4	4	3
Manufacturing Systems Engineering	MS	*	UK	0	3	1
Materials Engineering	MS		UK	4	2	4
Mechanical Engineering	MS		UL	0	4	1
Mining and Mineral Engineering	MMinE/MS		UK	6	2	5
Individualized Engineering Program	MEng	*	UK	9	0	6
Linguistics	MA		UL	5	2	3
German Language and Literature	MA		UK	3	4	4
	MA		UL	0	0	0
French Language and Literature	MA		UL	5	0	2
Classics and Classical Languages and Literatures	MA		UK	2	3	2
Humanities and Social Sciences	MA		UL	3	1	2
	MA		WKU	2	3	3
Biology, General	MAT		MuSU	0	0	0
	MS		MuSU	3	4	5
	MS		UL	5	4	6
Plant Pathology	MS		UK	3	1	1
Microbiology/Bacteriology	MS		UK	0	2	2
	MS		UL	2	0	1
Toxicology	MS		UK	1	4	3
Water Science	MS	*	MuSU	0	0	0
Entomology	MS		UK	1	3	3
Pharmacology, Human and Animal	MS		UK	2	2	1
	MS		UL	1	0	0

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Mathematics	MS		EKU	7	3	5
	MAT		MuSU	0	0	0
	MA/MS		MuSU	0	2	1
	MS		WKU	3	2	3
Historic Preservation, Conservation and Architectural History	MHP	*	UK	0	0	0
Interdisciplinary Studies	MA/MS		UL	2	1	2
Interdisciplinary Administration	MA	*	WKU	0	0	0
Parks, Recreation and Leisure Facilities Management	MA		MuSU	3	1	2
Philosophy	MA		UK	3	4	5
	MA		UL	1	4	2
Chemistry, General	MS		EKU	4	1	2
	MAT		MuSU	0	0	0
	MS		MuSU	0	2	3
	MS		UL	0	2	3
	MS		WKU	3	4	5
Geology	MS		EKU	6	0	3
Physics, General	MS		EKU	1	2	1
	MAT		MuSU	0	0	0
	MS		MuSU	0	0	0
	MS		UK	4	0	6
	MS		UL	6	2	4
Psychology, General	MA		MoSU	1	1	2
	MA/MS		MuSU	1	0	0
Clinical Psychology	MA^		UL	0	0	0
Experimental Psychology	MA^		UL	0	0	0
Criminal Justice/Law Enforcement Administration	MS		UL	6	2	4
Loss Prevention and Safety	MS	*	EKU	0	4	6
Anthropology	MA		UK	6	4	5
Geography	MA/MS		MuSU	5	4	5
	MA		UK	4	3	4
	MS		WKU	2	2	4
History	MA		MuSU	1	1	2
Political Science and Government, General	MA		EKU	5	2	3
Sociology	MA		WKU	9	1	5
Interior Design, Merchandising, and Textiles	MA/MS	*	UK	0	0	0
Drama/Theater Arts, General	MFA		UL	5	2	2
	MA		UL	5	0	1
Fine/Studio Arts	MA		MoSU	3	2	5
	MFA		UK	3	4	4
	MA		UL	8	2	4
Art History, Criticism and Conservation	MA		UK	2	1	2
	MA		UL	3	1	3
Music, General	MM		EKU	2	4	3
Music History and Literature	MA	*	UK	0	0	0
	MA		UL	0	0	0
	MM		UL	0	0	0
Music - General Performance	MM		MoSU	2	2	1
Music Theory and Composition	MM		UL	0	0	1
Dental Clinical Sciences/Graduate Dentistry (M.S., Ph.D.)	MS	*	UK	3	2	3
Radiation Science	MS		UK	3	0	4
Medical Anatomy	MS		UK	0	0	0
	MS		UL	4	4	2
Medical Biochemistry	MS		UK	0	0	0
	MS		UL	0	0	0
Medical Physiology	MS		UK	0	*2	1
	MS		UL	1	2	1
Nursing, General (Post-R.N.)	MSN	*	EKU	0	0	0
	MSN	*	WKU	0	0	0

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Public Health, General	MSPH		UK	5	4	8
Occupational Therapy	MS		EKU	0	2	2
Physical Therapy	MS		UK	3	2	2
Veterinary Clinical Sciences (M.S., Ph.D.)	MS		UK	2	1	1
Business, General	MBA		WKU	0	0	0

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Specialist Programs						
Curriculum and Instruction	EdS		MoSU	1	0	0
Educational Supervision	EdS		UL	0	0	0
Elementary, Middle and Secondary Education Administration	EdS		EKU	1	0	0
	EdS		MoSU	2	1	1
	EdS		MuSU	1	1	0
	EdS		UK	1	0	0
	EdS		UL	0	1	0
	EdS		WKU	1	0	1
Higher Education Administration	EdS		UL	0	0	0
Educational Psychology	EdS		UK	5	2	3
Special Education, General	EdS		UK	1	1	1
Counselor Education/Student Counseling and Guidance Services	EdS		MoSU	0	1	1
	EdS		MuSU	1	1	2
	EdS		UK	1	1	1
	EdS		UL	0	2	1
	EdS		WKU	3	0	2
College/Postsecondary Student Counseling and Personnel Services	EdS		EKU	0	0	0
Adult and Continuing Teacher Education	EdS		MoSU	1	0	0
Elementary Teacher Education	EdS		MuSU	0	0	0
	EdS		UL	0	0	0
	EdS		WKU	0	0	0
Junior High/Intermediate/Middle School Teacher Education	EdS		MuSU	0	0	0
Secondary Teacher Education	EdS		MuSU	0	0	0
	EdS		WKU	0	0	0

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PROGRAM	DEGREE		INST	DEGREES CONFERRED 1991/91	1995/96	5-YEAR AVERAGE
Doctoral Programs						
Soil Sciences	PhD		UK	5	1	2
Communications, General	PhD		UK	1	3	6
Computer and Information Sciences, General	PhD		UK	1	2	2
Educational Supervision	EdD		UL	4	4	3
Educational Evaluation and Research	PhD		UK	3	4	3
Educational Assessment, Testing and Measurement	EdD		UL	1	2	1
Educational Policy Studies and Evaluation	EdD		UK	5	3	3
Educational Psychology	EdD		UK	5	0	1
Special Education, General	EdD		UK	2	2	2
	EdD		UL	1	0	1
Counselor Education/Student Counseling and Guidance Services	EdD		UL	1	2	3
Vocational Teacher Education	EdD		UK	0	3	2
Agricultural Engineering	PhD		UK	4	1	1
Bioengineering and Biomedical Engineering	PhD		UK	1	1	1
Civil Engineering, General	PhD		UK	2	2	3
Electrical, Electronics and Communications Engineering	PhD		UK	4	3	3
Engineering Mechanics	PhD		UK	1	1	1
Industrial/Manufacturing Engineering	PhD		UL	2	3	2
Materials Engineering	PhD		UK	2	2	2
Mining and Mineral Engineering	PhD		UK	0	0	1
Computer Science and Engineering	PhD		UL	1	4	4
Spanish Language and Literature	PhD		UK	3	3	4
Biology, General	PhD		UK	2	4	3
Plant Physiology	PhD		UK	2	1	2
Microbiology/Bacteriology	PhD		UL	1	2	2
Nutritional Sciences	PhD		UK	1	3	2
Environmental Biology	PhD		UL	1	3	4
Entomology	PhD		UK	6	3	3
Pharmacology, Human and Animal	PhD		UK	1	3	2
	PhD		UL	0	0	1
Mathematics	PhD		UK	10	4	5
Mathematical Statistics	PhD		UK	2	3	3
Gerontology	PhD	*	UK	0	0	0
Health and Physical Education, General	EdD		UK	0	2	0
Philosophy	PhD		UK	2	2	2
Chemistry, General	PhD		UL	8	1	5
Geology	PhD		UK	4	3	3
Clinical Psychology	PhD		UK	7	4	6
Public Administration	PhD		UK	2	2	1
Urban and Public Affairs	PhD		UL	0	3	3
Anthropology	PhD		UK	1	3	2
Economics, General	PhD		UK	3	2	4
Geography	PhD		UK	1	2	3
Political Science and Government, General	PhD		UK	3	1	3
Sociology	PhD		UK	4	4	5
Art History, Criticism and Conservation	PhD		UL	0	0	0
Music, General	DMA		UK	5	0	3
Music History and Literature	PhD		UK	2	3	3
Medical Anatomy	PhD		UK	2	3	2
Medical Anatomy	PhD		UL	2	1	2
Medical Biochemistry	PhD		UK	9	4	4
	PhD		UL	4	3	4
Medical Physiology	PhD		UK	2	2	3
	PhD		UL	1	2	2
Visual Sciences	PhD	*	UL	0	0	0
Veterinary Clinical Sciences (M.S., Ph.D.)	PhD		UK	3	2	2

* Program begun during 5-year period
^ Program inactive during part of 5-year period
N = Nucleus Program
*** Doctoral Students only admitted into Master's program

Kentucky Public Universities
and the UK Community College System
Number of Programs / Number and Percentage of Low Performance Programs

University	Associate			Baccalaureate			Certificate			Master's			Specialist			Doctoral			First-Professional			University Totals		
	Total	Low Performance		Total	Low Performance		Total	Low Performance		Total	Low Performance		Total	Low Performance		Total	Low Performance		Total	Low Performance		Total	Low Performance	
	#	#	%	#	#	%	#	#	%	#	#	%	#	#	%	#	#	%	#	#	%	#	#	%
EKU	20	13	65%	85	39	46%	2	1	50%	30	10	33%	3	2	67%							140	65	46%
KSU	6	5	83%	29	22	76%				1	0	0%										36	27	75%
MoSU	9	4	44%	57	30	53%				19	5	26%	4	4	100%							89	43	48%
MuSU	15	14	93%	75	41	55%	1	1	100%	36	17	47%	5	5	100%							132	78	59%
NKU	11	3	27%	57	21	37%	1	1	100%	6	1	17%										76	26	34%
UK				90	30	33%				87	38	44%	4	4	100%	59	40	68%	4	0	0%	244	112	46%
UL	4	0	0%	62	28	45%	3	3	100%	66	32	48%	5	5	100%	21	16	76%	3	0	0%	164	84	51%
WKU	19	11	58%	82	30	37%	1	1	100%	41	15	37%	5	5	100%							148	62	42%
Univ Total:	84	50	60%	537	241	45%	8	7	88%	286	118	41%	26	25	96%	80	56	70%	8	0	0%	1,029	497	48%

Community College	Associate		
	Total	Low Performance	
	#	#	%
ACC	6	2	33%
ELCC	7	1	14%
HazCC	7	4	57%
HenCC	6	2	33%
HopCC	8	2	25%
JCC	19	8	42%
LCC	14	5	36%
MadCC	10	6	60%
MayCC	5	1	20%
OCC	8	3	38%
PadCC	6	2	33%
PreCC	4	1	25%
SomCC	5	2	40%
SouCC	8	4	50%
CCS Total:	113	43	38%

	System Totals		
	Total	Low Performance	
	#	#	%
Univeristies Total:	1,029	497	48%
UKCCS Total:	113	43	38%
System Total:	1,142	540	47%

Low Performance Programs:

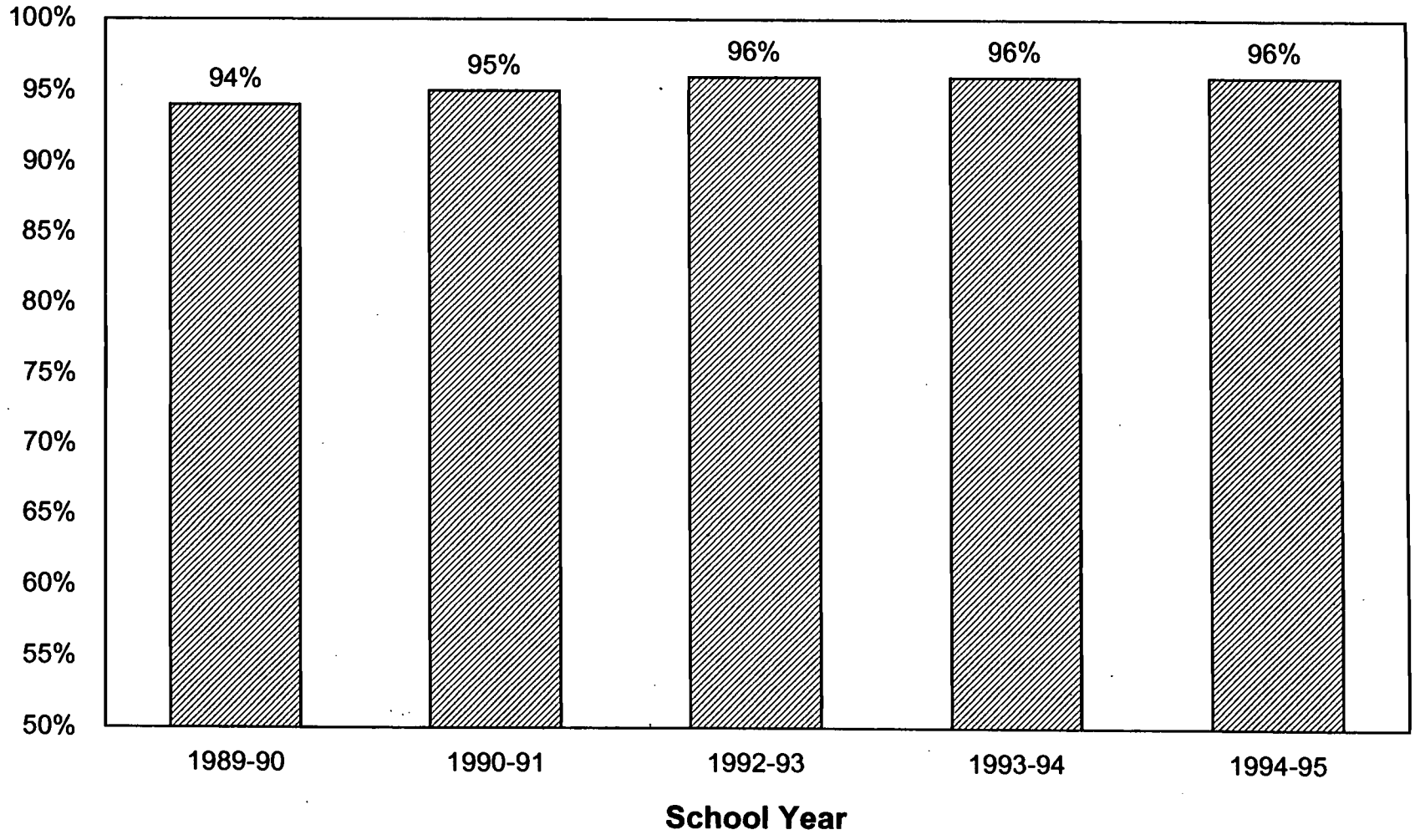
Associate, Baccalaureate, Certificate -- fewer than 10 degrees conferred in 1995/96

Master's, Specialist, Doctoral, First Professional -- fewer than 5 degrees conferred in 1995/96

CABINET FOR WORKFORCE DEVELOPMENT

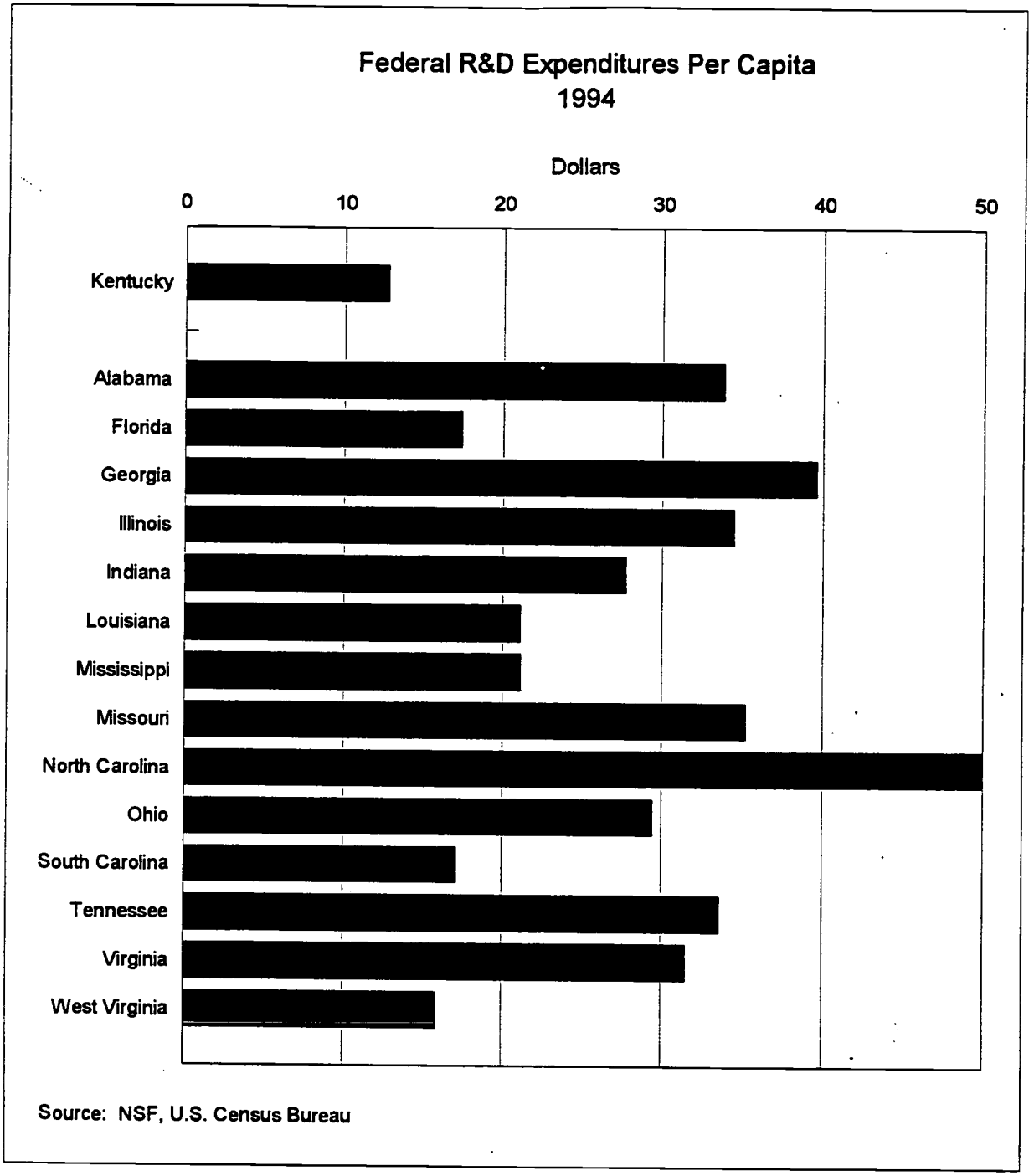
Department for Technical Education

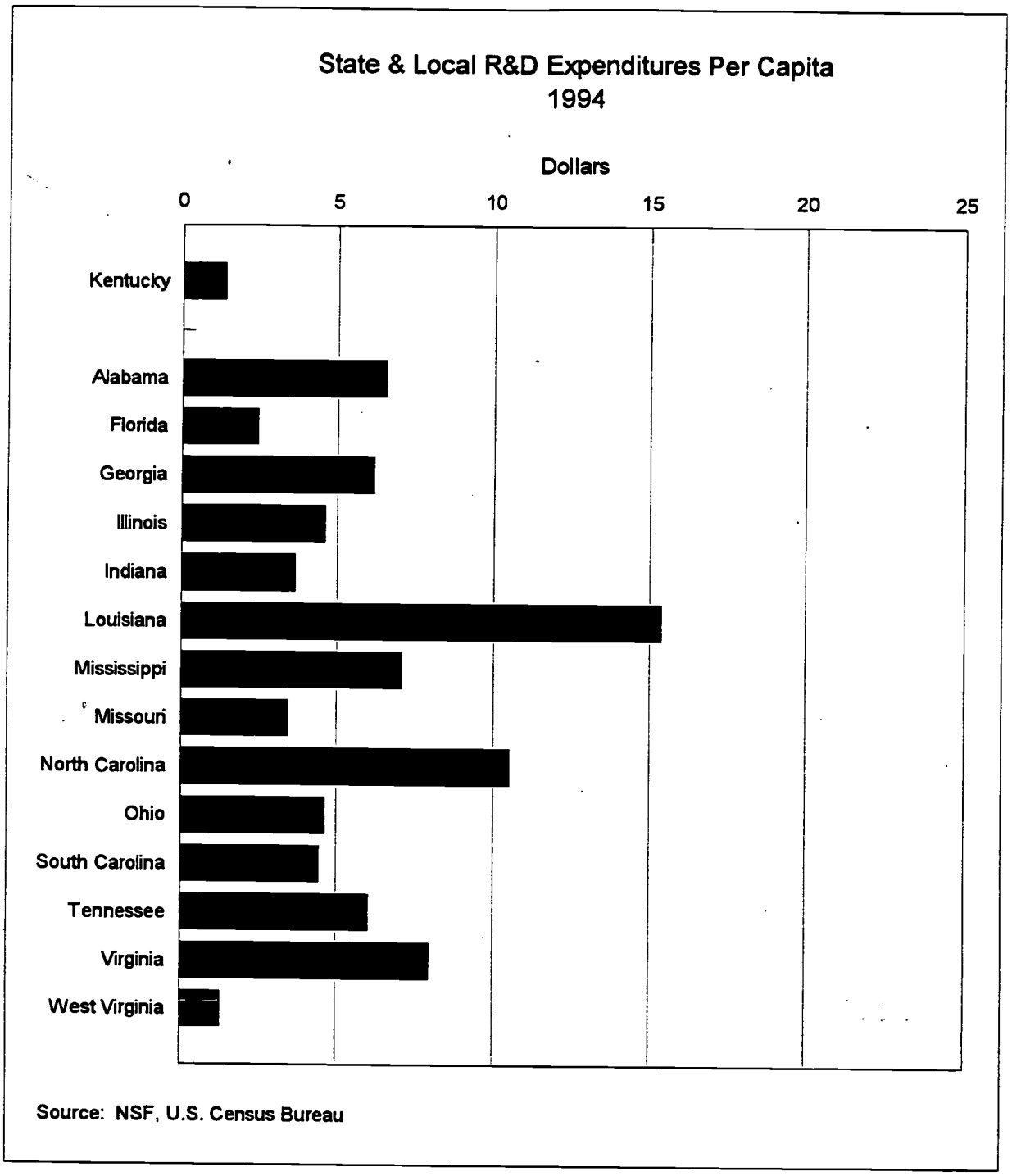
Kentucky TECH Postsecondary Placement Rates of Graduates by School Year *

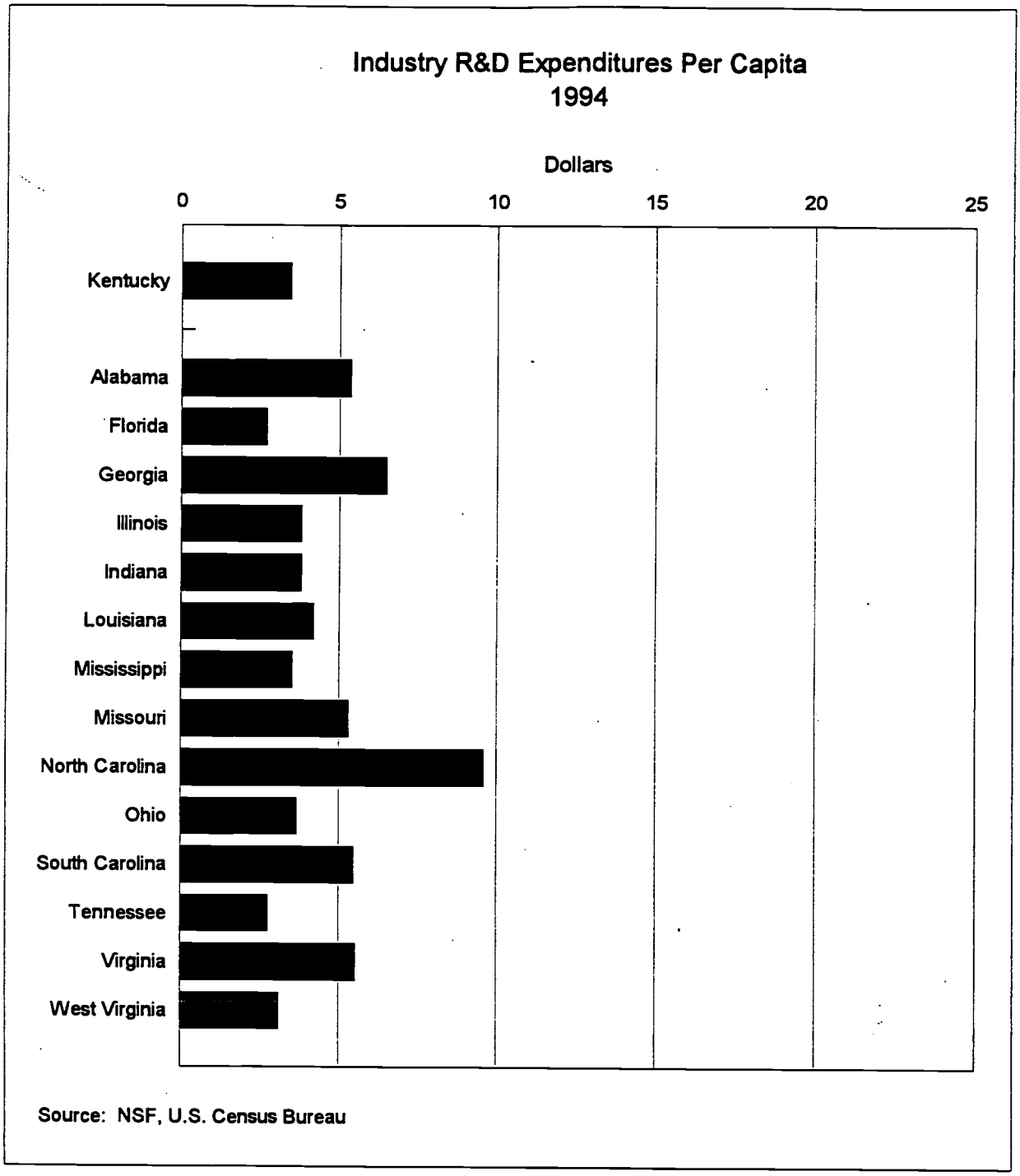


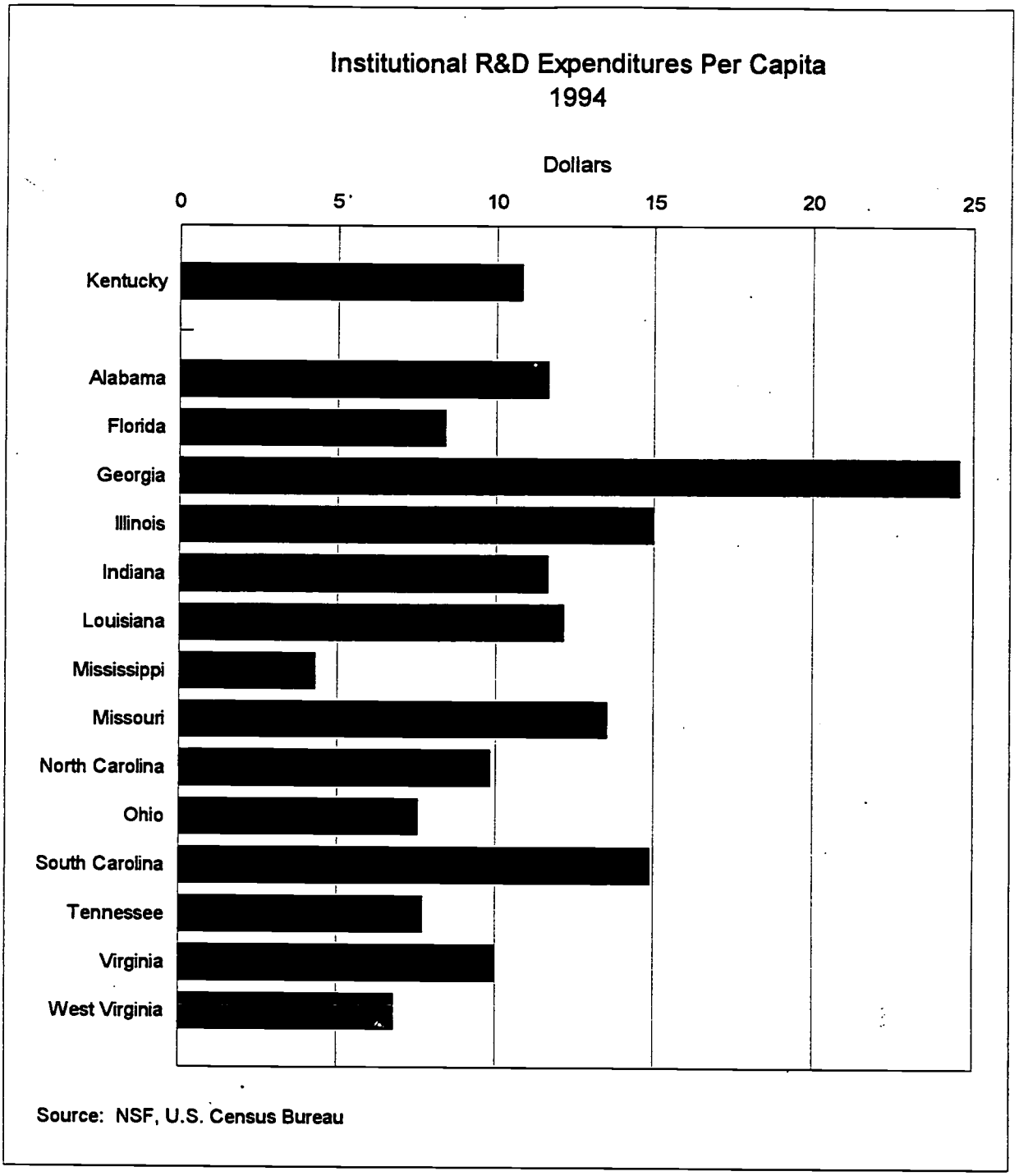
* Graduates with status unknown or unavailable for employment excluded from rates.

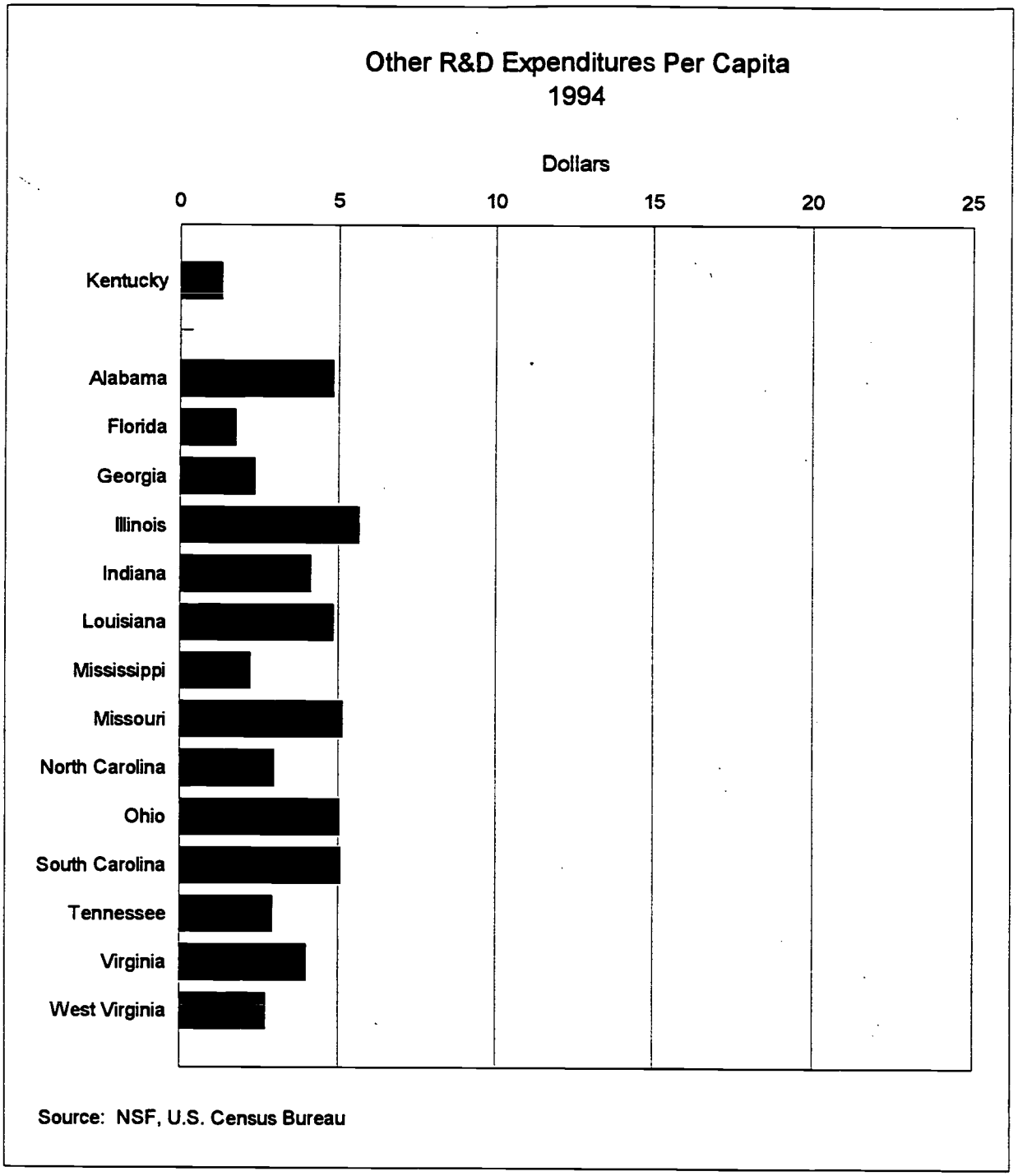
GOPM-527.prs


Federal R&D Expenditures Per Capita
1994
Dollars
0
10
20
30
40
50
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia
Source: NSF, U.S. Census Bureau


State & Local R&D Expenditures Per Capita
1994
Dollars
0
5
10
15
20
25
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia
Source: NSF, U.S. Census Bureau


Industry R&D Expenditures Per Capita
1994
Dollars
0
5
10
15
20
25
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia
Source: NSF, U.S. Census Bureau


Institutional R&D Expenditures Per Capita
1994
Dollars
0
5
10
15
20
25
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia
Source: NSF, U.S. Census Bureau


Other R&D Expenditures Per Capita
1994
Dollars
0
5
10
15
20
25
Kentucky
Alabama
Florida
Georgia
Illinois
Indiana
Louisiana
Mississippi
Missouri
North Carolina
Ohio
South Carolina
Tennessee
Virginia
West Virginia
Source: NSF, U.S. Census Bureau

Science and Engineering Profile

	Kentucky	U.S.	Rank
Doctoral scientists, 1993	3,780	430,332	32
Doctoral engineers, 1993	360	81,293	39
S & E doctorates awarded, 1995	198	26,482	33
of which, in life sciences	37%	24%	
in social sciences	19%	15%	
in psychology	16%	13%	
S & E postdoctorates, 1994 in doctorate-granting institutions	230	36,143	30
S & E graduate students, 1994 in doctorate-granting institutions	3,487	438,694	34
Population, 1995 (000s)	3,860	262,755	24
Civilian labor force, 1995 (000s)	1,861	132,281	25
Personal income per capita, 1995	$18,612	$22,788	44
Federal spending			
Total expenditures, 1995 (millions)	$19,991	$1,326,294	23
R & D obligations, 1994 (millions)	$89	$65,654	41
Total R & D performance, 1993 (millions)	$429	$161,427	38
Industry R & D, 1993	$289	$117,622	35
Academic R & D, 1994	$126	$20,573	35
of which, in life sciences	74%	55%	
in engineering	15%	16%	
in physical sciences	3%	10%	
Higher education current-fund expenditures, 1993 (millions)	$1,831	$163,994	29
Number of SBIR awards, 1990-94	28	18,023	29
Patents issued to state residents, 1995	272	55,717	34
Gross state product, 1992 (billions)	$75.6	$5,994.1	25
of which, agriculture	3%	2%	
manufacturing, mining, construction	32%	23%	
transportation, communication, utilities	9%	9%	
wholesale and retail trade	15%	16%	
finance, insurance, real estate	14%	18%	
services	14%	20%	
government	13%	12%	

Rankings and totals are based on data for the 50 States and DC.
Data on S & E postdoctorates and S & E graduate students include health fields.
Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.

APPENDIX V

Chapter 3

A Layman's Introduction to the Kentucky Higher Education Funding Formula

Kentucky utilizes a shared approach to recommending funding levels for higher education. The universities and the Council on Higher Education (CHE) identify funding needs and submit those needs to the Governor and General Assembly in a series of funding recommendations. From these recommendations, the Governor prepares a higher education recommendation for inclusion in the Executive Budget presentation. The General Assembly appropriates dollars directly to the universities. The universities independently establish operating budgets to expend dollars appropriated.

Since 1982, the universities and the CHE have employed a formula to identify the universities' and community colleges' funding needs. Full funding (100 percent) of the formula is defined as achieving the mid-range levels of funding for higher education generated by numbers used in states around us. The formula has been funded at a high of 88 percent (1987/88) and at a low of 72 percent (1993/94).

This approach to identifying universities' and community colleges' funding needs is called a "formula" because it is composed of a series of calculations. These calculations are based on how similar activities are funded in surrounding states.

The Kentucky formula is designed to be as universal as possible. The universality is achieved by calculating levels of state support for all activities possible. As a result, there are very few funded activities that are not calculated. The formula, however, does not generate funds to cover activities such as housing and dining operations, nor does it account for all sources of funds available to the institutions (e.g., federal funds).

The Kentucky formula is designed as a series of agreed-to calculations and funding levels for various activities. For example, different types of instruction (engineering vs. liberal arts) generate different dollar amounts per credit hour. A series of differentiated activities is quantified, and support for these activities is calculated and added to reach a level of "need" for each university and the community college system. These "bottom lines" are added to generate higher education's total funding need for any one fiscal year. From that total, degree credit tuition revenue is subtracted to generate the total need for state funds.

A formula goal is to treat all institutions alike in the generation of an institution's bottom line. There is no funding of distinctive missions, except through formula application to institutional activities, which differ from institution to institution.

The formula does not identify or fund performance, it does not include inherent recognition of mission differences, and it does not relate to operating budgets. The largest generator of need in the formula is student enrollment, although the more

comprehensive an institution, the more other activities (sponsored research, for example) are recognized and recommended for funding. Simply stated, community colleges, the least comprehensive institutions, generate most of their funding needs through enrollments. Conversely, the University of Kentucky generates funding needs from the largest number of formula components, with student enrollments being one of many factors.

The formula has been criticized as being too complicated. Conceptually, it is rather straight-forward. However, it becomes complicated when the myriad of calculations, rates, and applications are encountered. It takes in depth knowledge of the formula's components and their applications to understand its impact on each institution.

Southern Regional Education Board

The Southern Regional Education Board (SREB) was created in 1948 as the nation's first interstate compact for education. SREB helps government and education leaders to advance education and improve the social and economic life of the region by stressing the linkages between colleges and schools to improve educational quality and opportunity. SREB's fifteen member states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

SREB is governed by a board consisting of the Governor of each member state and four other individuals from the state, at least one of whom must be a state legislator, and at least one an educator. All appointments are made by the Governor for four-year staggered terms.

SREB is supported by appropriations from member states and by funds from private entities, foundations, and state and federal agencies.

SREB maintains data bases for both higher education and K-12 education and publishes about 40 reports and studies annually. Among SREB's many publications are the SREB Fact Book on Higher Education, Educational Benchmarks, and reports on vocational education and technology for colleges and schools.

SREB's offices are located in Atlanta, Georgia.

dh\0338

1995-96 SREB State Data Exchange
State and Local General Operating Appropriations
Per Full-time Equivalent (FTE) Student

SREB Category	State Appropriation per FTE	Adjustment to SREB Median
KY: Four Year I	4,469	
SREB Median	5,835	25,469,000
KY: Four Year II	5,156	
SREB Median	5,325	2,400,000
KY: Four Year III	3,992	
SREB Median	4,144	8,806,000
KY: Four Year IV	3,895	
SREB Median	3,655	N/A
KY: Four Year V	2,823	
SREB Median	3,943	10,071,000
KY: Four Year VI	7,587	
SREB Median	3,761	N/A
KY: Two-Year I	2,319	
SREB Median	3,418	30,743,000
TOTAL*		77,489,000

* Additional funding required for each Kentucky entity to reach the median funding level of its SREB comparison category.

1995-96 SREB State Data Exchange
State and Local General Operating Appropriations
Per Full-time Equivalent (FTE) Student

SREB Category	State Appropriation per FTE	Adjustment to SREB Highest
KY: Four Year I	4,469	
SREB Highest	9,152	87,315,000
KY: Four Year II	5,156	
SREB Highest	6,791	23,215,000
KY: Four Year III	3,992	
SREB Highest	5,574	52,562,000
KY: Four Year IV	3,895	
SREB Highest	5,915	14,885,000
KY: Four Year V	2,823	
SREB Highest	7,379	40,968,000
KY: Four Year VI	7,587	
SREB Highest	7,503	N/A
KY: Two-Year I	2,319	
SREB Highest	5,855	98,916,000
TOTAL*		317,861,000

* Additional funding required for each Kentucky entity to reach the highest funding level of its SREB comparison category.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

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